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ABSTRACT

The relationship between the University of California at Berkeley and the government is examined. Interviews with over 150 people on campus, ranging from leading administrators to a sample of faculty researchers to section heads in departments such as Personnel and Purchasing, as well as written reports by numerous offices supplied the data of this report. Data include: copies of applicable laws and regulations; manuals on laws and regulations produced by government and the university; relevant files on correspondence, plans, and documents; and various campus reports. Information is focused on: () direct cost of federal regulations; (2) direct burdens of federal regulations; (3) indirect or secondary effects of regulations; (4) constraints on research or services; and (5) benefits of regulation. Chapters examine foreigners, research, disadvantaged groups, financial aid, privacy and campus records, and environmental and safety regulations. Tables provide statistical data on such areas as federal expenditures, research awards, and campus costs. It is suggested that although federal government's involvement is beneficial in many ways, a distance should be kept between education and government to protect against over-regulation. Higher education is urged to lobby more for its causes, keep campuses in compliance with federal law, and be consistent in goals and values in order to put its relationhip with the government in proper perspective. (LC)

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THE UNIVERSITY OF CALIFORNIA, BERKELEY
AND THE GOVERNMENT

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An Institutional Self Study for the Sloan Commission
On Government and Higher Education

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
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EDUCATION

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Berkeley, September 19, 1977

HE 012 427

TABLE OF CONTENTS

Part One:	The Nature of the Study	1
Part Two:	Berkeley	6
Part Three:	Regulations and Rulings on Disadvantaged Groups	15
Part Four:	Financial Aid	101
Part Five:	Foreigners	122
Part Six:	Research	133
Part Seven:	Privacy and Campus Records	278
Part Eight:	Environmental, Health, and Safety Regulations	298
Part Nine:	Miscellaneous Aspects of Federal Regulation	315
Part Ten:	A Summary and Concluding Thoughts	326

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PART ONE
THE NATURE OF THE STUDY

Selecting an appropriate format for this study posed a number of difficulties. The campus is awash in federal money and immersed in federal regulation, so there was the question of where and how to begin. Also to be considered was the time limitation, and the fact that the study would be conducted during the summer when many faculty and aministrators flee the campus. Instructions from the Sloan Foundation were (purposefully) vague, except that it was made clear this would be a preliminary study in many respects, the idea being to call attention to and illuminate matters that should receive a more detailed consideration by the Commission and its staff.

Initial considerations that shaped the conduct of the study were three. It seemed important to convey a sense of how pervasive Federal regulations have become, of how they infest the milieu within which everyone on campus operates. Complaints about federal "intrusion" provoke images of an alien presence at the gates, an incorrect depiction of a phenomenon that has much to do with who comes through the gates and what they do once they're inside - and which may well have paid for the gates in the first place!

Thus it appeared useful to try to capture the extent of the government's modulation of campus life by doing as broad a survey as possible within the time available. Higher education cherishes autonomy, yet the further dimensions of federal regulation are so seldom traced that we cannot readily say if it is a myth that we cherish now, a pale reflection of a departed status that once had substance.

Such a survey ruled out an extended historical account of campus-government relations, lest completion of the report take until sometime in the next decade. An attempt was made to concentrate primarily on the last academic and fiscal year (dipping into 1975-76 when later figures were not available), seeking a snapshot rather than a documentary.

Appropriate background information, references to trends, and a look at the near future have been included where necessary to better understand the present. This approach had other attractions, for over the years Berkeley has had profound, sometimes bitter, experiences with the government on which people do not readily like to dwell.

There were considerations of a more pragmatic sort. Putting it bluntly, people at Berkeley are weary of surveys, and administrators are well burdened with task forces or committees to probe this and that. They claim to know better ways to spend their summers. This appeared to rule out one standard format for such studies: the high level committee of major officials which distributes a lengthy questionnaire throughout the institution and then pulls together the replies, and other information that has been gathered, into a single document. The time available made it most unlikely that a suitable (rather detailed) questionnaire could be designed, pretested, revised and then distributed, and the mood of the campus is such that the replies would be only partially reliable.

The solution adopted was to hire a consultant who, after discussions with various campus authorities on federal regulation and under the direction of the Chancellor, designed and conducted the study. The resulting view of the campus relationship with the government rests on information and perceptions drawn from all quarters of the campus, filtered through the observations and views of a particular individual. The consultant selected offered certain advantages. First, he was from another institution and thus brought a non-Berkeley perspective to bear. However, he had served as ACE Fellow for the 1976-77 academic year and in that capacity had observed and participated in numerous campus activities. Thus he was an outsider with something of an insider's perspective. Next, he was in a position to begin some work on the study in late spring and to devote full time to the study for the entire summer,offering a greater degree of flexibility than regular faculty or staff. Finally, he is a political scientist, a discipline not unrelated to the subject at hand.

The study was conducted in the following manner. The consultant drafted an outline of the objectives of the study, which served as the basis for introducing members of the campus community to the purpose and scope of the investigation. Attached was the compendium of applicable federal laws and regulations provided by the Sloan Foundation. The consultant attended staff meetings of major offices to review the outline and discuss the details of the study. The outline requested information on the following:

1) Direct costs of federal regulations - in hiring additional personnel, preparing required reports, making additional payments to employees,

buying additional materials or computer time, paying for additional costs of grievances, and so on.

2) Other direct burdens of federal regulations - in forcing reallocations of the time and attention of administrators, staff, and faculty, in making jobs more complex and/or more annoying.
3) Indirect or secondary effects of regulations. Some of those referred to included possible increases in the degree of bureaucratization or centralization of the campus, shifts in the priorities of offices and budgets, and changes in the autonomy, privacy, or personal relationships previously enjoyed by members of the campus community. Also included was the category of state government intrusions ultimately traceable to the federal government, a complex and difficult subject.
4) Constraints on research or services - activities not taking place , because regulations prohibit them or make them too difficult to do, that would otherwise be conducted.
5) Benefits of regulations - in time or money saved, in enhancing safety or equal opportunities, in forcing improvements in administrative processes, and in other ways.

This outline served as the basis for formal interviews with over 150 people on campus, ranging from leading administrators to a sample of faculty researchers to section heads in departments such as Personnel and Purchasing. A number of offices also chose to submit written reports as well. All were asked to supply additional materials that would be helpful and those submitted included:

copies of applicable laws and regulations;

manuals on laws and regulations produced by the Federal and State governments, the University of California, and Berkeley offices;

statements of campus and University policies designed to reflect and implement laws and regulations;

relevant files of correspondence, plans, and documents pertaining to laws and regulations

reports on the impact of various kinds of regulations on portions of campus - brief reports of officials, major campus and University reports, one dissertation, and a major project environmental impact report;

relevant background information on campus finances, enrollments, research employment, and on the general subject of federal regulation.

Many of those contacted were officials at University Hall in the University of California administration. If Berkeley were not part of a larger system, many of University Hall's dealings with the government on its behalf would have to be undertaken by the campus itself. For example, much of the legal work for the campus pertaining to federal laws and regulations is handled by University Hall; thus a good portion of the legal impact of federal regulation can be detected only by surveying activities of the General Counsel's office.

Some caveats are in order at this point. The study is not complete, for the subject is too vast.Conduct of the study was not tightly controlled, i.e. interviews were open ended, and people bore down hard on some subjects but glanced off others as their feelings and concerns dictated. The signal advantage of this approach was that people were not frozen into one format for their views and comments, and could readily introduce new topics or extend their remarks on familiar ones into areas unanticipated in the beginning. However, this was achieved at the expense of some loss of coherence in responses, making evaluation more difficult, and of a lack of equivalent detail on all aspects of the subject. However, in view of the preliminary nature of the study and the expressed preference of the Foundation that those self-studies broadly capture many dimensions of the subject, a flexible approach seemed best.

Also missing, therefore, was an elaborate methodology for such things as the computation of financial costs of regulation or assessment of the regulation-induced complexities of administrative work. Time was a critical factor here, as well as the fact that the preferences and probable courses of action of the Commission and its staff on such matters were as yet undetermined.

Finally, the report is not an "institutional" product. That is, there was no attempt to arrive at consensus positions on many matters, no thorough sampling of all major elements on the campus. (For instance, students were not consulted about the impact of federal regulation on their affairs.) Only a limited number of faculty were contacted.

Sometime after the study was begun it became clear that the Commission staff sought information on the broad relationship between the campus and the government in the area of research, extending beyond the regulatory aspect of that relationship. A good deal of information pertinent to this matter had been gathered, and additional interviews were conducted and other materials were pulled together to strengthen this component of the report.

PART TWO

BERKELEY

A brief description of the U.C. Berkeley campus provides a useful context for much that follows. Brief is enough, for Berkeley is not without reputation, bordering on notoriety in some circles, and because it shares many features with other American universities. It is a place of unusual prominence and distinction, an assembly of most distinguished faculties numbering among their members Nobel Prize winners, many others in the National Academy of Sciences, and 21 Guggenheim Fellowship winners in 1976. The latest American Council on Education evaluation of graduate institutions ranked Berkeley first in the nation. It continues to lead the nation in numbers of B.A.s who eventually earn doctorates.

Although it originated as a land grant institution, it has become a large urban school in a major metropolitan area. Nearly 1500 faculty and 13,500 other employees serve approximately 29,000 students (20,000 undergraduates), with enrollments being reduced toward a planned 27,500 by 1980, based on the California Master Plan for Higher Education. One result of their efforts is that over 9000 degrees are granted each year. Total land area is 1230 acres but much of it is steep slopes on the Berkeley hills so the campus proper amounts to roughly 180 acres, with student activities and university facilities spilling out into the surrounding city. The bulk of the students either live in the city of Berkeley or commute from around the Bay Area. Berkeley also operates a vast extension program that enrolls over 42,000 students, and research facilities around northern California. It is involved in numerous programs abroad and currently enrolls some 1800 foreign students, mainly at the graduate and postdoctoral level.

It has a number of other characteristics as an academic institution. One is that it has been predominantly oriented toward the sciences and engineering. Another is the particular emphasis placed on research in almost all departments, as the mark of distinction and the path to advancement. Apart from but often allied with the departments are dozens of research units - institutes, centers, museums, laboratories. The campus is also associated with several federal labs under an arrangement in which the labs are federal in financing, internal arrangements, and operations yet employ faculty and use other campus resources, have many faculty and students making use of their facilities, and report administratively to the University of California. The result is an enormous research effort not a part of the campus but in which the campus partakes and which is located where it is because of the campus.

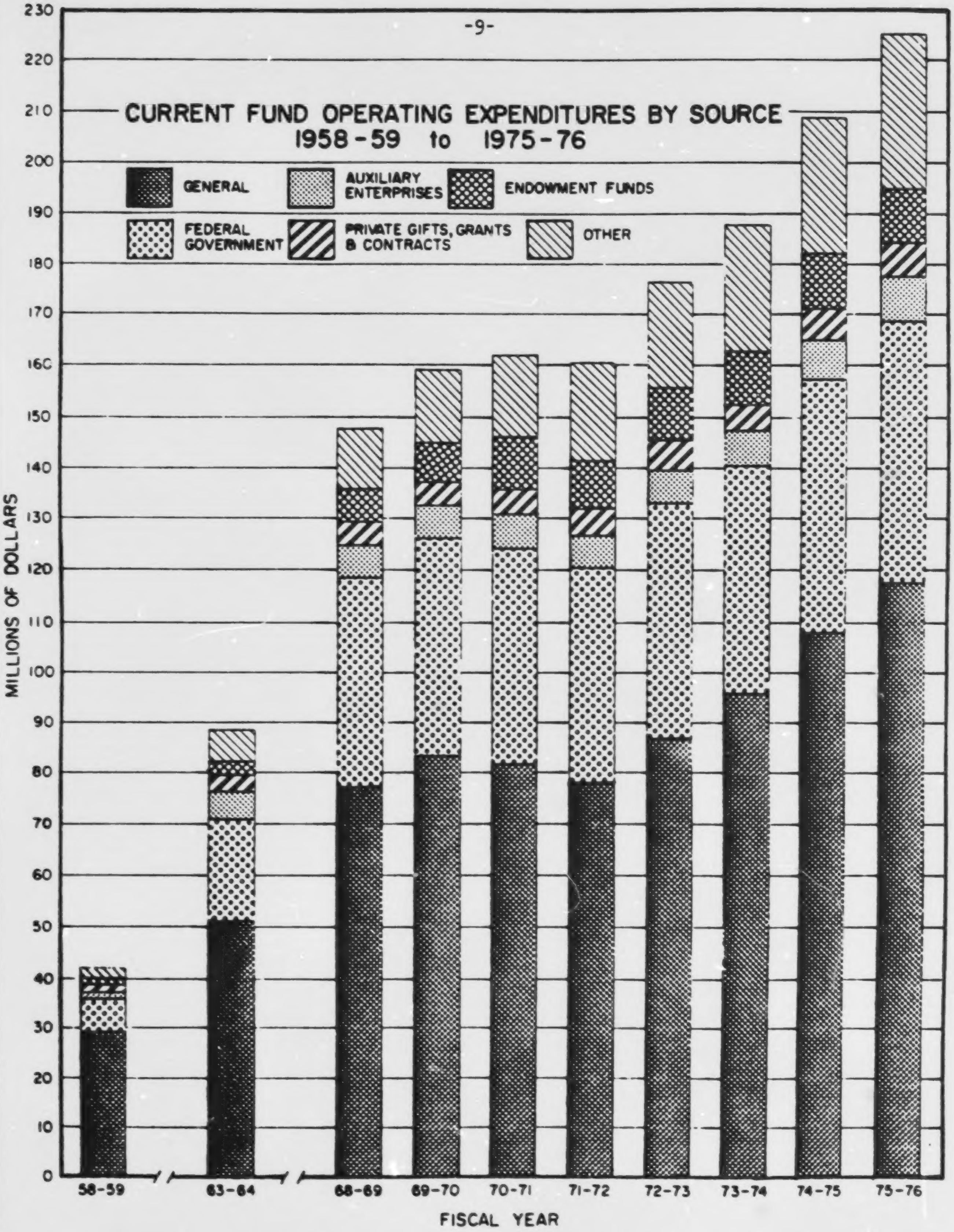
Another key feature is the tradition and reality of faculty governance. Faculty are granted certain powers by the Regents, powers primarily exercised by Academic Senate committees. These extend to a faculty committee being the dominant influence on all decisions pertaining to hiring, promotion, tenure and salary. Also the academic administrators are drawn from the faculty, and frequently return to their departments after the punishment for their sins that is their term in office.

Administratively, Berkeley is one of nine campuses of the University of California. The University is directed by the President and a full blown Systemwide Administration . However, the actual relationship between Berkeley and the Systemwide Administration (University Hall) is complex. Berkeley was the original campus of the University, and is the alma mater of many who run University Hall and the other campuses. For many years it was the home of the President, and University Hall was built across the street from the campus. Berkeley continues to supply many administrative services for University Hall and the entire system - ranging from the phone network at Systemwide to the broad coordination of the 9 campuses' police and fire departments. In some ways, and in the eyes of jaundiced observers, University Hall is an extension of Berkeley regardless of what the organization charts say. Yet Berkeley is often less closely associated with University Hall than the other campuses. The campus provides for itself many services that the other campuses derive from Systemwide. And it is, after all, Berkeley - no such institution could be expected to nestle comfortably in a multicampus system , Berkeley often does not.

There are particular features relevant to the involvement of the campus with the federal government. In many respects Berkeley and the entire University of California grew up on federal money in the postwar years. Its prominence in science and in research generally have brought extensive reliance, to the point of dependence, on Washington's largesse, a relationship of many years standing and not without its frictions and tension. Berkeley was also a most visible (and the earliest) center of virulent student unrest in the '60s - old pictures show the earliest radicals marching in shirts and ties - and has been at the cutting edge on many issues and developments in higher education ever since. Such prominence has helped make it a target of federal attention, particularly on civil rights/affirmative action matters.

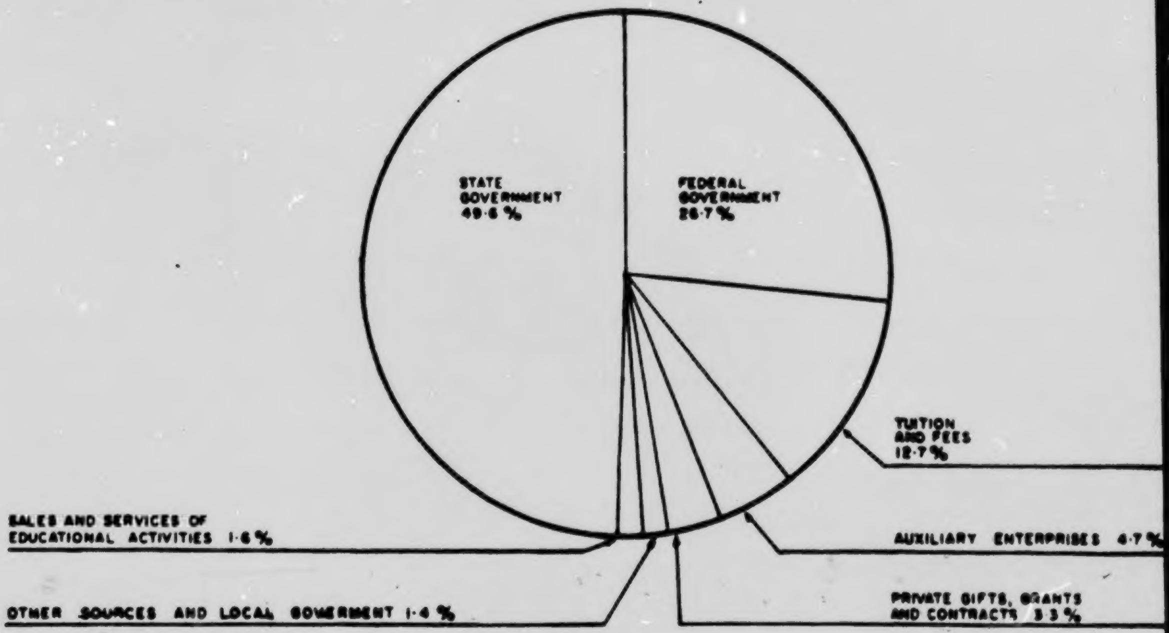
Its response to federal regulation is typically energetic compliance rather than passive acceptance, with the campus often initiating compliance in advance of the actual regulations and carrying it to extremes by the standards of other institutions. Partly this is the caution of a natural target for federal enforcers looking to set an example. But it also reflects a strong commitment to many of the objectives that have prompted federal laws and regulation - concern for the environment, racial equality, women's liberation, etc.

All of this costs money. In 1975-76 current fund receipts reached $223 million and current fund expenditures $226 million. Of the former, the state of California supplied 49.6% and the Federal Government another 26.7% - some $60 million. The involvement of the federal government varies: federal money provided loans to 3,178 students, amounted to 28% of the money spent by the various schools and colleges, and over 53% of the expenditures by special research and public service units. 35% of the College of Engineering's funds were federal, 71% of the funds of the School of Public Health, but only 2% of the libraries' funds. Thus the impact varies but is usually substantial, in that the campus is heavily dependant on the federal government for support. The following tables show this clearly:

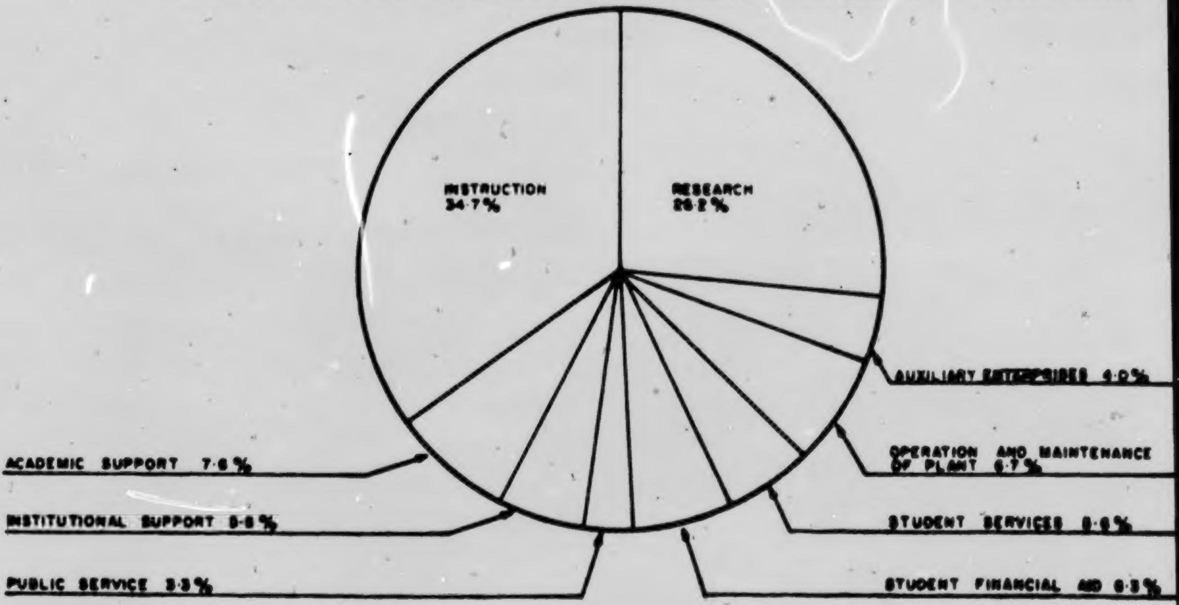


CURRENT FUND OPERATING EXPENDITURES BY SOURCE
1958-59 to 1975-76

BERKELEY CAMPUS 1975-76
CURRENT FUND OPERATING RECEIPTS BY SOURCE



CURRENT FUND OPERATING EXPENDITURES BY FUNCTION



SCHOOL, COLLEGE OR RELATED ACTIVITY EXPENDITURES BY FUND SOURCE
1975-76

School or College	General and State Funds and Fees	Federal Government	Endowment Funds	Private Gifts, Grants and Contracts	Other Sources	Total
Professional Schools and Colleges:	$	$	$	$	$	$
Agricultural Experiment Station	6,261,974	3,178,452	62,566	505,118	176,788	10,184,898
Natural Resources	2,350,658	2,571,746	13,819	30,492	31,393	4,998,108
Business Administration	2,555,720	368,753	276,659	53,412	35,404	3,289,948
Chemistry	4,984,067	2,360,193	24,727	341,294	18,471	7,728,752
Criminology	293,938	14,536	1	237	--	308,712
Education	2,557,066	274,984	61,682	93,817	2,005	2,989,554
Engineering	11,798,925	7,187,264	268,673	1,051,204	313,957	20,620,023
Environmental Design	2,785,680	166,569	10,370	12,007	4,297	2,978,923
Journalism	399,533	3,297	952	32,081	--	435,863
Law	2,253,631	1,072,067	141,332	666,898	50,547	4,184,475
Librarianship	634,699	13,788	1,160	--	--	649,647
Optometry	680,819	409,376	44,507	3,779	538,886	1,677,367
Public Health	2,006,176	5,442,489	84,122	37,558	80,361	7,650,706
Public Policy	502,040	90,749	4,590	244,562	--	841,941
Social Welfare	899,152	83,542	1,340	2,801	--	986,835
Total	40,964,078	23,237,805	996,500	3,075,260	1,252,109	69,525,752
College of Letters and Science:						
Letters and Science	39,508,719	12,285,133	1,168,268	692,625	103,879	53,758,624
Ethnic Studies	675,160	33,903	199,901	2,086	27,805	938,855
Total	40,183,879	12,319,036	1,368,169	694,711	131,684	54,697,479
Graduate Division	3,052,333	6,230,030	1,177,723	1,301,999	349,405	12,111,490
Campus-wide Programs:						
Summer Session	1,328,862	--	--	--	--	1,328,862
University Extension	3,758,324	1,046,068	5,742	29,034	2,598	4,841,766
Libraries	9,641,742	232,274	787,361	137,005	60,310	10,858,692
Other	1,575,920	2,736,249	1,380,403	242,286	3,276,503	9,211,361
Total	16,304,848	4,014,591	2,173,506	408,325	3,339,411	26,240,681
Total Schools and Colleges	$100,505,138	$45,801,462	$5,715,898	$5,480,295	$5,072,609	$162,575,402
Percent of Total School and College Expenditure	61.8%	28.2%	3.5%	3.4%	3.1%	100.0%

BERKELEY CAMPUS

EXPENDITURES OF SPECIAL RESEARCH AND PUBLIC SERVICE UNITS BY FUND SOURCE
1975-76

Activity	General and State Funds	Federal Government	Endowment Funds	Private Gifts, Grants and Contracts	Other Sources	Total
Organized Research Units						
Natural Resources						
International Center for Biological Control	$ --	$ 1,874,272	$ 460	$ 10,635	$ --	$ 1,885,
Business Administration						
Center for Research in Management Science	48,968	366,117	2,336	8,150	(11,264)	414,
Engineering						
Earthquake Engineering Research Center	23,956	1,226,017	38,427	91,609	9,873	1,391,
Electronics Research Laboratory (including Electrical Engineering Research)	141,895	2,018,364	7,375	24,058	33,475	2,225,
Operations Research Center	14,527	210,781	118	8,015	--	233,
Sanitary Engineering Research Laboratory	215,325	63,255	320	6,253	2,081	287,
Sea Water Conversion Laboratory	288,932	172,792	943	8,394	37,667	508,
Institute of Transportation and Traffic Engineering	600,647	596,566	145	19,725	15,261	1,232,
Subtotal	1,285,284	4,289,775	47,328	158,054	98,357	5,878,
Environmental Design						
Planning and Development Center	22,956	--	--	--	--	22,9
Law						
Earl Warren Legal Institute	36,383	879,374	2,018	614,810	--	1,532,5
Center for Study of Law and Society	55,753	174,299	63	1,397	--	231,5
Subtotal	92,136	1,053,673	2,081	616,207	--	1,764,0
Letters and Science						
Archaeological Research Facility	30,798	1,000	--	8,117	12,101	52,0
Radio Astronomy Laboratory	261,891	551,776	896	2,260	--	816,8
Behavior Research Field Station	5,229	--	--	--	--	5,22
Botany - Jepson Herbarium	--	368	37,426	--	--	37,7
Cancer Research - Genetics Laboratory	151,236	733,999	22,710	104	--	908,0
Institute of Governmental Studies	415,667	88,607	10,196	9,326	18,213	562,00
Institute of Human Learning	59,516	259,573	43	19,688	--	338,8
Center for Pure and Applied Mathematics	19,658	462,879	296	--	--	482,8
Museum of Anthropology	348,848	19,759	40	--	18,963	387,61
Museum of Paleontology	155,687	2,084	73,025	266	39	231,10
Museum of Vertebrate Zoology	327,030	141,731	66,144	24,028	--	558,9
Institute of Personality Assessment and Research ..	118,442	43,730	193	86,814	--	249,17
Virus Laboratory	357,851	917,019	4,144	281	1,113	1,280,40
Subtotal	2,251,853	3,222,525	215,113	150,884	50,429	5,890,80

erkeley Campus
xpenditures of Special Research and
ublic Service Units by Fund Source -- 1975-76 -- continued

Activity	General and State Funds	Federal Government	Endowment Funds	Private Gifts, Grants and Contracts	Other Sources	Total
rganized Research Units - continued						
ibrarianship						
Institute of Library Research	$ 100,190	$ --	$ 1,160	$ --	$ --	$ 101,350
ublic Health						
Naval Biomedical Research Laboratory	13,226	2,429,258	6,574	--	3,585	2,452,643
raduate Division						
Bodega Marine Laboratory	100,053	335,662	812	--	1,943	438,470
Institute of Business and Economic Research	141,199	153,983	1,140	68,239	1,969	366,530
Center for Research and Development in Higher Education	56,573	202,106	238	243,874	15,898	518,689
Institute of Human Development	346,982	424,071	207	136,703	6,199	914,162
Institute of Industrial Relations	509,197	102,413	24,401	295,415	93,889	1,025,315
Institute of International Studies:						
General	343,868	177,725	171,360	135,721	13,706	842,380
Center for Southeast Asia Studies	3,456	37	--	--	--	3,493
Center for Chinese Studies	39,289	54,556	1,920	89,519	3,829	189,113
Center for Japanese and Korean Studies	13,683	14,566	56,008	6,927	(257)	90,927
Center for Latin American Studies	16,722	--	6	--	--	16,728
Center for Slavic and East European Studies	41,501	22,502	4	--	28	64,035
Center for South Asia Studies	16,102	60,619	107	1,556	1,488	79,872
Indonesia Project	--	--	--	--	--	--
Subtotal - IIS	(474,621)	(330,005)	(229,405)	(233,723)	(18,794)	(1,286,548)
Institute of Race and Community Relations	1,410	—	39,822	61,037	--	102,269
Space Sciences Laboratory	128,326	4,182,283	133,550	12,803	17,524	4,474,486
Survey Research Center	82,210	40,902	120,044	220,052	139,129	602,338
Institute of Urban and Regional Development:						
General	140,908	166,742	447	7,024	22,941	338,062
Center for Real Estate and Urban Economics	79,561	--	--	--	9,626	89,187
Subtotal - IURD	(220,469)	(166,742)	(447)	(7,024)	(32,567)	(427,249)
White Mountain Research Station	43,206	120,449	15,754	--	21,493	200,902
Subtotal	2,104,246	6,058,616	565,820	1,279,171	349,405	10,357,258
ther						
Lawrence Hall of Science	5,484	644,432	474,396	85,290	1,219,617	2,429,219
Total Organized Research Units	5,924,343	19,938,668	1,315,268	2,308,391	1,710,329	31,196,999
pecial Organized Research Units						
gricultural Experiment Station						
General	5,166,448	2,286,254	61,426	325,726	39,848	7,879,702
Forest Products Laboratory	556,720	91,982	101	71,649	2,250	722,702
Wildland Research	470,974	759,178	1,026	68,023	134,660	1,433,861
Wildlife Fisheries	67,832	41,038	11	39,728	--	148,609
Subtotal	6,261,974	3,178,452	62,566	505,118	176,765	10,184,898
hemistry						
Chemical Biodynamics Laboratory	--	2,222	6,576	13,946	--	22,744

Berkeley Campus
Expenditures of Special Research and
Public Service Units by Fund Source — 1975-76 — continued

Activity	General and State Funds	Federal Government	Endowment Funds	Private Gifts, Grants and Contracts	Other Sources	Tota
Special Organized Research Units - continued						
Graduate Division						
Radiation Laboratory - Donner Laboratory	$ --	$ 143,018	$ 12,277	$ 21,379	$ --	$ 176,
Total Special Organized Research Units	6,261,974	3,323,692	81,419	540,443	$ 176,788	10,384,
Special Units						
Art Center	--	115,989	105,227	50,389	996,995 (1)	1,268,
Education						
Field Service Center	40,258	343	--	190	--	40,
Letters and Science						
Botany						
Botanical Garden	281,753	3,138	2,320	16,241	140	303,
Herbarium	180,041	—	4,675	464	--	185,
Electron Microscope Laboratory	83,672	—	1,125	—	--	84,
Scientific Photographic Laboratory	41,957	--	--	—	—	41,
Subtotal	587,423	3,138	8,120	16,705	140	615,
Graduate Division						
Institute of Basic Research in Science	--	--	556,276	--	--	556,
Total Special Units	627,681	119,470	669,623	67,284	997,135	2,481,
Recap:						
Organized Research Units	5,924,343	19,938,668	1,315,268	2,308,391	1,710,329	31,196,
Special Organized Research Units	6,261,974	3,323,692	81,419	540,443	176,788	10,384,
Special Units	627,681	119,470	669,623	67,284	997,135	2,481,
Total	$12,813,998	$ 23,381,830	$ 2,066,310	$ 2,916,118	$ 2,884,252	$44,062,
Percentage of each Fund Source to Total Expenditures	29.1%	53.1%	4.7%	6.6%	6.5%	100.

NOTE:
(1) Includes $758,153 of student fees.

PART THREE

REGULATIONS ON DISADVANTAGED GROUPS

This section of the report deals with the impact of various federal and state measures designed to promote the betterment of what are regarded as disadvantaged groups that continue to suffer discriminatory treatment - ethnic minorities, women, the handicapped, plus those eligible under the concept of age discrimination. It is a very large section because of the massive scope and effects of the applicable regulations, especially at Berkeley which has consistently been at the center of civil rights activities, either as instigator or as target.

Regulations, Decisions on Women and Minorities

The major laws and regulations pertaining to women and minorities are:

Title VII of the Civil Rights Act of 1964
Title VI of the Civil Rights Act of 1964
Executive Order 11246
Title IX of the Education Amendments of 1972
Equal Pay Act of 1963

Numerous other federal laws, regulations, and court decisions bear either directly or obliquely on the treatment accorded to women and minorities but the above are of greatest prominence.

Some Financial Costs of Affirmative Action

Precise costing of any campus activity can pose difficult problems, and affirmative action is no exception. There are a variety of definitional problems of the following sort:

1) should the costs assigned be only those directly mandated by external regulations, such as required reporting, or should they include those for activities which are a response to the general intent of the regulations even though not specifically required, such as a minority student aid program? In this report the latter course was chosen.
2) should the costs cited refer essentially to those distinct offices and activities labeled affirmative action and funded as such, or

should some allowance be made for the time devoted to affirmative action by regular officials and staff, for example at the departmental level and in the Office of the Chancellor? On the whole, this report adheres to the former, primarily because of the difficulty of accurately assessing administrative costs of widely dispersed offices, although at various places in the report references are made to the impact of affirmative action on the allocation of time and attention of these people.

3) Should costs of student affirmative action include only those programs expressly labeled as for minorities and women or should it include the Educational Opportunity Program, in which the majority of the participants are minorities but which includes some impoverished or otherwise disadvantaged whites as well? The decision was to include the entire EOP costs because the program was designed with affirmative action in mind.

Some information on costs can be derived from the official University budget for affirmative action. In the area of personnel, the state government has provided the magnificent sum of $250,000 per year since fiscal year 1973-74. The Regents of the University have added $1,000,000 to this in each of the past two years, with the total then allocated to the nine campuses. In 1976-77 Berkeley's share was $208,500. The administrative budget of the Affirmative Action office, approximately $200,000 is expended on affirmative action matters for all the campuses, Berkeley included. It is not possible to parcel out this expenditure so as to accurately determine what proportion is spent on behalf of Berkeley, but the Affirmative Action office believes that 1/9, or $22,000, is a reasonable estimate, for while Berkeley is larger than most of the other campuses it draws on the services of the office less than they do. The Affirmative Action office estimates that an additional $1.5 million is spent by the University Hall administration on affirmative action - related matters. Again, this is activity of service to all nine campuses, but there is no way to precisely allot it among them for cost calculation purposes. A simple 1/9 figure is $166,000. By these calculations the costs of affirmative action on behalf of the campus at University Hall amount to roughly $190,000 annually.

In March, Berkeley submitted a budget to University Hall for its affirmative action activities for 1976-77 in academic and staff personnel matters and estimated expenses through 1981-82. The 1976-77 budget on the academic side was 5 FTE and $278,976. Estimates of future expenditures were as follows:

1977-78	$240,246
1978-79	253,742
1979-80	269,263
1980-81	287,112
1981-82	307,639

Of the 1976-77 figure of $278,976, Berkeley contributed $85,635 in campus resources. Projections for future years assume this support from campus discretionary funds will be erased, so the campus has asked for additional resources from University Hall, ranging from $46,000 in 1977-78 to $114,000 in 1981-82. On the staff side the campus reported that in 1976-77 12 FTE and $210,744 were devoted to affirmative action programs. Thus the total spent on designated employee affirmative action programs in 1976-77 was $489,720.

In the area of student affirmative action Berkeley has a variety of recruitment, counseling, aid, and placement programs for minority students, plus counseling and child care services for women. The total cost of these services in 1976-77, including financial aid to EOP students, was reported by the Office of the Associate Vice-Chancellor - Student Affairs to be $7,582,247, the bulk of which is in student aid. In addition, another $700,000 in state funds were expended in the College Opportunity Program at Berkeley, a state aid program in which the majority of the beneficiaries are minorities.

A summary table of the above figures looks like this:

Berkeley Affirmative Action Expenditures
1976-77

Academic Personnel	$ 278,976
Staff Personnel	210,744
Subtotal	489,720
Student	7,582,247
College Opportunity Program	700,000
Subtotal	8,282,247
Total	8,771,967
University Hall	190,000
Grand Total	8,961,967

It is important to note, once again, that these are by no means all of the costs, if one wishes to take administrative overhead at the college and department level into account or pro rate the time of campus executive officers by salary. However, these are also to some extent self-imposed costs - some of the activities they reflect might be conducted at less cost and still leave the campus in compliance with the law. They are also costs borne in pursuit of goals of great importance to the campus, not just the government, and thus they would not disappear in the unlikely event the government cancelled its commitment to equal opportunity. Withal, they are a start at grasping the impact of affirmative action.

Major Affirmative Action Activities

There is a wide variety of programs and activities at Berkeley oriented to the needs of women and minorities that have emerged from the climate of affirmative action fostered by federal laws and regulations. Every campus responds to this climate in its own way; what follows is a quick review of the main elements of the Berkeley response, an attempt to convey how affirmative action concerns are of influence. This is coupled with the next section, which reviews miscellaneous areas of campus life altered in some way by the same concerns. Together they also provide an opportunity to mention the costs of some of these activities not included in the affirmative action budget figures.

I Academic Personnel

One place to begin is with the work of the Faculty Assistant to the Vice Chancellor for Faculty Affirmative Action. This office consists of a faculty member on half time appointment with the administration and a full time secretary. The Faculty Assistant administers elements added to Berkeley personnel procedures in order to ensure that affirmative action considerations are brought to bear. In hiring, for example, on every faculty appointment a department must report to the Faculty Assistant on the number who applied, all those with whom there was further correspondence, all those invited for interviews, all those interviewed, and those who made the final list from which the selection was made. The report must explain why the department has recommended its first choice over the other candidates. If the first choice is not a minority person or a woman, the department must explain why any such people on the list were not selected. If no minority persons or women were on the final list, the department must explain why. As part of this general policy, the Faculty Assistant reviews and pays for all advertising of open positions. His office pays the costs of interviwing female or minority candidates.

The Faculty Assistant is also concerned with tenure and promotion decisions. These decisions at Berkeley, as well as initial appointments, are largely in the hands of the faculty Budget Committee. In addition to receiving recommendations from departments and deans, the Budget Committee also appoints ad hoc review committees (composed of faculty) on these cases, which also submit recommendations. The Faculty Assistant is involved in various ways. In a personnel decision on a female or minority faculty member, he reviews the proposed membership of the ad hoc review committee with an eye to ensuring it is properly representative. If the decision of the Budget Committee on one of these cases is negative he reviews it for recommending possible action by the Chancellor. If an outside woman or a minority scholar is recommended for an open, tenured position and the decision of the Budget Committee is negative he reviews it. The Vice Chancellor, with the help of the

Faculty Assistant, examines every minority academic personnel case and most of those involving women.

The Faculty Assistant also directs the Faculty Development Program. This is a program that provides grants and released time primarily to junior female and minority faculty, with the goal of strengthening their research efforts and therefore their records when they come up for tenure. Some are summer research grants, others are career development grants with released time for up to one quarter. Costs of this program - $78,243 in 1976-77 - are included in the total affirmative action budget figures cited elsewhere in this report. 24 grants were awarded this year.

The Faculty Assistant works closely with the faculty Committee on the Status of Women and Minorities, which has been in operation since 1972-73. In earlier years the Committee had heavy responsibilities for gathering relevant personnel data, but most of this is now done in The Vice Chancellor's office. The Committee, consisting of 13 faculty and 2 students, now meets monthly for 1-2 hours and reports periodically to the Berkeley division of the Academic Senate.

The Faculty Assistant has also been involved this past year in a salary equity study, paid for by his office, which is being conducted by a professor in the Statistics Department. The study originated in the commitment to HEW in the Berkeley Plan to remove salary inequities, if any, borne by women and minorities.

Another activity in which the Faculty Assistant is deeply involved is the preparation of the annual faculty affirmative action report to HEW, as called for under the Berkeley Plan. The preparation of the report is a major undertaking, consuming a huge amount of staff energy and costing $50,000 or more in staff and computer time this year. Only a portion of these costs is reflected in the affirmative action cost figures cited previously. The 1976-77 report consumed one quarter of a system analyst's time, two months of the time of a Staff Assistant in the office of the Assistant Chancellor - Budget and Planning, six months of a programmer's time, 3-4 days of The Vice Chancellor's time, plus the various efforts required to gather the data throughout the campus. Printing costs alone were $1,500.

This report consists of three volumes totalling 1236 pages. It contains such things as data profiles on the recruitment and selection processes for each open position for each academic unit during the year - covering applications, the reasons for rejecting most applicants, and the manner in which applicants learned of the position (to check on the "old boy" network). It also reviews availability pools, and offers a breakdown of TA and RA appointments for each campus unit by race and sex. While the bulk of the report is tabular in nature, the written portion is an exceedingly detailed examination of faculty appointments, promotions, and salary increases, broken down by race and sex. It also includes a calculation for each department, based on the national availability pools in that field, of the number of minority and female faculty that would have to be hired to bring the total in line with those pools.

Gathering the data for this annual report has proven so costly and time consuming that the campus has been forced to develop an entirely new computer-based academic data system - Academic Personnel Information System (APIS). The idea of having such a system had been around for some time and a modest attempt to move in this direction was made in 1972. However, the idea was revivied and sufficient resources ($70,260) were allocated this year because of the need to do something about the growing burden of the HEW report. In future years the system will serve a number of other needs as well so the anticipated yearly expense for the forseeable future is $32,000. This year's cost is included in the affirmative action cost figures cited above.

The APIS project involves bringing together academic personnel information, payroll data, information on faculty specializations, data from the department level, information on faculty service on committees, and information on where faculty who leave the institution go. It is an excellent example of regulations having a number of far-reaching secondary effects. With this system it will be possible to supply a complete list of academic employees for any purpose (for

ID cards, invitations to events, etc.), to keep and retrieve records far more efficiently, to provide more easily the internal reports on which academic personnel planning is based, to meet ad hoc requests for information, and to provide the data base for analytical studies of all sorts.

While all of these are additional benefits derived from a system not initiated with them in mind, there are other potential effects that are less salutary. For one thing, there is a potential security problem, despite strenuous efforts to hold it to a minimum. That is, far more information about a faculty member will be easily accessible in one place than ever before, so that a breach in the confidentiality of the system could have more serious consequences than before.

Another consideration is the fact that APIS will increase the central administrator's access to detailed information about every member of a department. The possibility seems remote that Berkeley administrators will not find uses for this capability, and that some increase in their ability to monitor will not be followed by increasing central administrative intervention in personnel matters. It is these two possibilities that have led The Vice Chancellor and others to anticipate a certain degree of faculty opposition, or at least concern, over the new system.

In the past few years the Faculty Assistant has been active in promoting the establishment of departmental affirmative action committees. There are now 62 of them, fattening the committee load on the faculty considerably. Their responsibilities include efforts to ensure that affirmative action is kept in mind in searches for new faculty.

II Staff Personnel

On this side of the campus, there have been [illegible] number of programs installed in an effort to upgrade the situations of women and minorities. Many of these center on the Human Resources Utilization unit in the Personnel Office. Officials in that unit estimated their affirmative action activities this past year amounted to over $60,000 in staff time, report preparation, and materials. Included in this was part of the cost of preparing the annual report to HEW on staff affirmative action efforts. As with the academic report to HEW, determining the total cost of this report is difficult, but reports from the Personnel Office and the Administrative Information Systems Office put it in the neighborhood of $40,000. It reviews recent affirmative action activities and offers statistical analysis by race and sex of all personnel transactions during 1976. The report, an update on the Berkeley staff affirmative action program, is 44 pages in length this year.

The Personnel Office has a variety of responsibilities related to affirmative action. For affirmative action purposes, the advertising of staff openings has been considerably expanded. Berkeley employment listings are now sent to over 100 groups and agencies around the state, many of which are active in minority affairs. There is now much more centralized data gathering for purposes of the annual report and to monitor affirmative action progress. The 18 personnel representatives devote roughly 10% of their time advising campus departments as to affirmative action goals, checking on the diversity of the pools from which employees are recruited, and investigating complaints raised on affirmative action grounds. Some 10 support staff also devote some of their time to these efforts. These people are frequently in contact with approximately 130 employees designated affirmative action coordinators in various campus departments. This is a job which is typically added to an employee's other responsibilities and does not involve a great deal of time and effort in most cases.

Currently, Personnel Office staff are holding meetings with representatives from the 250 different departments on campus to explain staff affirmative action policies, answer questions and clarify responsibilities - about 80 of these one hour meetings have been held thus far. The Personnel Office also requires that departments submit interview data forms and an application status report whenever anyone is hired. These forms supply data on the nature (ethnic, sexual) of applicants for a position, the qualifications that led to the final selection, the background of each other individual interviewed and the reasons he or she was not selected. The Personnel Office uses this information to detect possibly discriminatory hiring patterns, to guide recruitment efforts, and to feed into the process of preparing the annual HEW report. The categories of information analyzed and reported to HEW are:

Applicant Recruitment
Applicant Referral
Applicant Selection
Employee Transfer and Promotion
Employee Training
Employee Salaries
Employee Separations

Quarterly Reports based on the data collected are now sent to the Vice Chancellor - Administration to keep him abreast of developments.

A major effort in on-the-job training for staff positions is conducted. Two major contracts using state funds currently employ nearly 120 persons, programs which have one of the highest retention rates in the state. Since 1970 over 600 economically disadvantaged persons have been hired in programs of this sort. Involved in this effort is a good deal of counseling, assessment of trainees' skills, training in job interviewing and in filling out job applications, plus formal classes and individual tutoring sessions. Despite the success of these programs they are currently running on short rations from the state. An administrative analyst and an employment representative will shortly have to be shifted to University or campus funds because of cutbacks in state funding for these programs. Berkeley also participates in the Neighborhood Youth Corps and other summer employment programs for minority young people. Over 200 are employed each summer.

One other affirmative action effort is the Mid-Management Education Certificate Program. This is a program that assists employees who need additional education to qualify for mid-management careers on the campus, but who may lack the academic credentials to be eligible for regular admission to Berkeley to obtain that education. Employees are given time off, with pay, to attend classes, often at other educational institutions in the area.

All such activities are directed by the Staff Affirmative Action Plan, which is updated annually and sent to HEW. The plan specifically rejects "benigh neutrality" in employment practices as likely to perpetuate the status quo with respect to women and minorities. It outlines the responsibilities of campus units, sets leave policies for childbearing, describes various advancement training programs, defines the nature of utilization analysis, and sets affirmative action goals and timetables with respect to underutilization of minorities and women in all major departments and programs. The following chart is the latest statement (May 1977) of staff Affirmative Action goals and timetables.

Comparison of 1975 and 1976

AFFIRMATIVE ACTION GOALS AND TIMETABLES

The following chart lists those job categories in which women, Mexican/Spanish Americans, Blacks, and Asians are underutilized, based on a comparison of campus workforce figures as of October 31, 1976 and availability data (1970 U.S. Census figures). Underutilization which existed as of October 31, 1975 is also listed for comparison.

Using the first figures for women as an example, the chart is interpreted as follows: in 1975, there was an underutilization of 8 women campuswide in the Management Program; in 1976 there is an underutilization of 6 women in that category. According to yearly turnover figures for 1976, the campus needs to hire 1.7 women in the Management Program in a one-year period, at which rate it will take 3.5 years to totally eliminate the underutilization.

Job Subcategories in Which Underutilization Exists	*Number of Persons Underutilized*		*One-Year Hiring Goal (Based on Turnover)*		*Timetable to Eliminate Underutilization in Year (Based on Turnover)*	
	1975	1976	1975	1976	1975	197
WOMEN						
Management Program	8	6	1.5	1.7	5+	3.5
Engineering & Science Tech's	3	0	3.4	—	0.9	—
Mail Services, Storekeepers	17	12	3.6	3.0	4.7	4.0
Communications/Machine Opr's	0	6	—	3.3	—	1.8
Craftsworkers	3	4	0.8	1.5	3.8	2.7
Operatives	6	5	1.3	1.4	4.6	3.6
Laborers	2	13	1.4	6.0	1.4	2.2
Cleaning Services	27	19	2.5	2.5	5+	5+
Protective Services	18	14	1.1	2.4	5+	5+
MEXICAN/SPANISH AMERICANS						
Management Program	0	1	—	0.5	—	2.0
Other Officials and Managers	6	7	1.2	1.4	5.0	5.0
Student Services	3	3	0.7	0.9	4.3	3.3
Communications, Arts & Graphics	4	3	1.8	1.4	2.2	2.1
Engineering & Allied Services	1	1	0.9	0.9	1.1	1.1
Fiscal, Staff & Mgmt Services	7	4	4.4	3.5	1.6	1.1
Nursing Services	0	1	—	0.5	—	2.0
Therapists, Health and Social Wkrs	1	1	0.4	•	2.5	•
Clinical Lab Technologists	1	1	0.4	•	2.5	•
Health Practitioners	2	2	0.4	0.6	5.0	3.3
Sciences	18	15	3.2	3.2	5+	4.7
Health Technicians	1	1	0.2	•	5.0	•
Engineering & Science Tech's	13	12	3.1	3.8	4.2	3.2
Other Technicians	4	3	1.0	1.6	4.0	1.9
Clerical/Administrative	105	61	30.0	28.3	3.6	2.2
Library Assistants	8	1	2.4	1.9	3.3	0.5
Mail Services, Storekeepers	1	0	0.9	—	1.1	—
Communications/Machine Opr's	1	4	1.6	2.6	0.6	1.5
Craftsworkers	8	9	1.6	2.7	5.0	3.3
Operatives	5	7	1.2	1.5	4.2	4.7
Laborers	1	2	0.6	1.6	1.7	1.3
Food Services	19	14	0.3	2.7	5+	5+
Cleaning Services	7	3	1.5	1.5	4.7	2.0
Protective Services	5	5	0.6	1.4	5+	3.6
Health Services	1	1	•	0.5	•	2.0

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b Subcategories in Which nderutilization Exists	*Number of Persons Underutilized* 1975	1976	*One-Year Hiring Goal (Based on Turnover)* 1975	1976	*Timetable to Eliminate Underutilization in Years (Based on Turnover)* 1975	1976
			BLACKS			
anagement Program	1	1	0.3	0.4	3.3	2.5
ommunications, Arts & Graphics	1	1	1.0	0.7	1.0	1.4
ngineering & Allied Services	1	1	0.5	0.4	2.0	2.5
scal, Staff & Mgmt Services	2	1	2.4	1.8	0.8	0.6
ursing Services	1	1	0.7	0.8	1.4	1.3
erapists, Health & Social Wkrs	0	1	—	*	—	*
linical Lab Technologists	0	1	—	*	—	*
ealth Practitioners	1	1	0.2	0.3	6.0	3.3
ciences	0	1	—	1.1	—	0.9
ther Technicians	0	1	—	1.0	—	1.0
erical/Administrative	30	30	10.6	14.3	2.8	2.1
brary Assistants	2	1	1.3	1.3	1.5	0.8
ail Services, Storekeepers	1	6	1.8	1.5	0.6	3.3
raftsworkers	0	1	—	0.4	—	2.5
peratives	2	2	0.5	0.6	4.0	3.3
			ASIANS			
ood Services eaning Services otective Services ealth Services	combined**	23		3.1		6+

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* No turnover in job category during the year in question; statistically impossible to calculate goals and timetables.

** Availability data is provided for Asians only by major Federal Occupational Code groupings, not subcategories; thus the underutilization in all Service Worker subcategories is expressed as one figure. Data for 1975 were found to be statistically inaccurate, so a comparison is not possible.

III Students

Affirmative action concerns with respect to students have led to the establishment of a large number of programs. They begin with efforts to recruit minority students to come to Berkeley, which is the work of the Office of Relations With Schools. Representatives of that office visit high schools and colleges and concentrate their efforts on minority students; a subsection of ORS specializes in Chicano recruitment. (In the admissions process, Berkeley normally simply sends to other UC campuses applications from qualified students that remain after all openings are filled. However, when an applicant is identified as a minority student he is not "redirected", as this is called.) In addition, 4% of undergraduate admissions are set aside as "special", and over 60% are for the Educational Opportunity Program. The great majority (80%) of these students are from minority groups. EOP students receive over $4,000,000 in financial aid each year. They are major beneficiaries of the Student Learning Center, which attempts to help students overcome academic problems. There is an EOP/Minority Student Advocate, EOP peer counselors in various offices, an EOP Adviser Coordinator in the Student Learning Center and a variety of other staff who assist the EOP students. After admission and before school begins, EOP students and other minority students may attend the Summer Bridge Program. The purpose of this program is to ease the transition from high school to Berkeley and correct academic deficiencies. Morning classes are offered in basic math and English as well as other fields. Afternoon sessions are devoted to advising, orientation, counseling, and development of academic skills. Last summer 118 students participated, approximately 85% of them minority students.

Student services also include the Women's Center, which conducts orientations and provides counseling for women students, the Special Health Services Program for women, and the Child Care Service for female students attending school and/or working on campus.

Financial aid programs extend from EOP student aid to programs to support especially gifted minority students, to federally funded aid programs for Native American students. One major aid program is the Graduate Minority Program which supports 450 students annually, directed by an Associate Dean of the Graduate Division.

Miscellaneous Affirmative Action Activities

One of the periodic comments about the impact of federal regulation is that many regulations seem to affect almost everything. Affirmative action regulations are perhaps the most frequently cited example. For a report such as this, the difficulty comes in trying to convey how extensive the impact is without offering a survey of Berkeley department by department. Major examples of affirmative action activities pertaining to academic personnel, staff, and students have already been outlined. The following is a sample of other areas on campus.

I Aftereffects of the Title IX Self-Evaluation

In 1975-76 the campus carried out a required self-evaluation under Title IX of the 1972 Education Amendments. In 1977-78 it will be required to do a similar self-evaluation on the handicapped. This year there was no such requirement; however, there were certain aftereffects from the prior year's effort, a good example of how federal regulations have a variety of secondary effects.

Preparation of the self-evaluation report was an enormous undertaking in 1975-76. Each academic and staff unit had to prepare its own report, based on instructions from the administration - all academic departments, research units, student affairs offices, the police, the library, etc. To assist them, the administration gathered and supplied data on each unit's operations: on admissions, enrollments, degrees granted, employment, and so on. Questionnaires were distributed to a random sample of 3000 students. Consultants were hired to assist in pulling the information together. In other words, this requirement resulted in a very major effort.

The Vice Chancellor felt that, although it was not required, a follow on report would be in keeping with the spirit and intent of Title IX. This took the form of pulling together a large sample of the comments made by women, and some men, in the course of the self-evaluation, the idea being to convey the flavor of people's perceptions, their feelings and attitudes about alleged or actual sex discrimination as a contribution to a continuing campus dialog on these matters.

A very considerable effort to do this was mounted, resulting in a 140 page volume of comments. However, the project turned out to be more complicated than first envisioned. Everyone anticipated that it would be difficult to settle on a proper sample of comments, and there were the typical problems concerning how to organize comments - by department, field, college, type of respondent, etc. However, once these had been settled and the booklet printed and prepared for distribution (in thousands of copies), it was discovered that in many cases it might be possible to identify the persons whose comments had been included. For instance, a comment from "a female graduate student in the department of X" might be traceable if there are virtually no female graduate students in Department X. Or the comment itself might contain evidence as to the person's identity, such as "one of the professors in my department simply can't deal with women, as indicated by his treatment of me in his seminar; fortunately he will soon retire". Such a comment might well uncover both the identity of the student and the professor.

It is wrong to erode anonymity and invade people's privacy in this way. In fact, various federal laws and regulations prohibit it! Thus the booklets had to be torn apart, and many of the pages rewritten to remove the unacceptable portions. This extended the project by several weeks, raised the total costs to something like $14,000, used up a large amount of the staff's time in The Vice Chancellor's office, and sharpened tempers or shortened the fuses of everyone connected with the project. The report also delivered a public relations jolt. The first day it was out, the Oakland Tribune headlined in mighty large type the fact that many women said they thought the campus a dangerous place after dark - a final surprise from a project that never went quite as expected.

II Purchasing

The campus Purchasing Department has been heavily affected by affirmative action concerns, in obvious and not-so-obvious ways. First, it is a department that employs people and is therefore subject to all regulations pertaining to hiring, promotion, and dismissal. Thus in hiring anyone, the Department must fill out the forms requiring detailed information as to who was considered, who was interviewed, and the reasons for the decision on who to hire. Attention must be paid to the race, sex, and handicapped status of each person interviewed. The Department finds that in hiring, this means roughly four times as much effort is required as before. Advertising of a position must be cleared with Personnel; so must the job description. Then Personnel sends over a larger variety of candidates for interviews, including some who are not very suitable but would help meet the campus affirmative action goals if employed. More people must be interviewed than previously, and then the forms must be filed on the applicants.

However, the larger effect of affirmative action comes in purchasing itself. Federal regulations require that an active effort be made to do business with minority owned firms on federal contracts and grants. Language to this effect is inserted in the basic agreements between the entire University and key federal agencies, such as HEW and the Office of Naval Research, as well as in the specific contract and grant awards to the Berkeley campus. In keeping with this responsibility, the Purchasing Department has developed a Minority Suppliers Directory, a 30 page compilation of firms listed by the kinds of products or services they supply. Initial development of the Directory took three people four months of work two years ago; a fair amount of work is invested in trying to keep it up to date although in fact it is impossible to do for the Department simply lacks the staff. A number of businesses list themselves as minority firms when they are not. Some firms once indicated they supply certain goods but when contacted it turns out they no longer do so. The Department not only does as best it can with the Directory, it also circulates names of minority firms to other UC and Bay Area campuses, and to high schools and other institutions.

The Department must keep track of all business with minority vendors. On each purchase where minority firms were involved a person in the Department prepares a report on who was selected, any minority vendors considered and the amount of the purchase. These purchase reports become the basis for monthly and quarterly reports, to the Material Manager at University Hall, which list the total dollar volume of campus business for which minority businesses were eligible and of that which they received. Thus Berkeley recorded $88,600 in solicitations and $76,700 in awards to minority vendors in the first quarter of this year. All of this work is managed by the Minority Business Coordinator in the Department.

Other services provided include a certain degree of counseling of such firms on how to bid on campus awards, and permitting these firms an exception to the University rule of payment on delivery (to allow progress payments). The Department has held sessions with representatives of such firms to explain campus procurement procedures, although Purchasing people complain that such meetings often degenerate into a platform for assertions that Berkeley should do more.

Purchasing finds the benefits hardly commensurate with the effort. Those minority firms that do well are usually ones that required no assistance in the first place to be competitive. More minority firms get some of Berkeley's business than would otherwise be the case, and the Department feels their total business with the campus has probably quadrupled in recent years. But as one official put it, "this is going from one thimbleful to four thimblefuls"; the minorities share of Berkeley business is still minute.

The Purchasing Department has one or two Neighborhood Youth Corps program employees in the office every summer, and participates in staff on-the-job training programs for minorities. The latter have led to several people getting permanent jobs in the office. Affirmative action is also credited with having changed expectations in hiring, so that the purchasers aren't all men and clerical staff always all women any more.

The Department must also insert provisions into its awards pertaining to non-discrimination by contractors. For instance, many awards have attached certification forms that a potential supplier must submit with his bid, asserting that he adheres to equal opportunity requirements and does not operate segregated facilities. The standard equipment lease used by the University contains a clause requiring the lessor to adhere to Executive Orders 11246 and 11375, take affirmative steps to hire and promote women and minorities, communicate this policy in "both English and Spanish" to all concerned, provide on request a labor force analysis by race, sex, and job category, and " discuss with the University his policies and practices relating to his affirmative action program". The same is true of standard University terms and conditions for purchases and services.

Finally, there is a covenant attached to purchase orders under which the seller agrees not to discriminate and promises to:

> "... provide evidence, as required by University, that he has notified all supervisors, foremen, and other personnel officers in writing of the content of the anti-discrimination clause and their responsibility under it.
>
> ... provide evidence ... that he has notified all sources of employee referrals ... of the content of the anti-discrimination clause .
>
> ... file a basic compliance report.
>
> ... through negotiations with the Unions with whom he has agreements, attempt to develop an agreement which will:
>
> 1. Define responsibilities for non-discrimination in hiring, referral, upgrading, and training.
> 2. Otherwise implement an affirmative anti-discrimination program ...notify University of opposition to the anti-discrimination clause by individuals, firms or organizations...
>
> ... include the [above] provisions in every first tier subcontract into which he may enter in connection with his performance pursuant to the Purchase Order ..."

The language is cited at length to make the following points about it. First it is very much like the language the government imposes on higher education institutions; it is easy to see the ultimate origins of such language and worth noting that it imposes some rather open ended responsibilities on the seller. Second, there is no conceivable way that Berkeley, or the University, can adequately enforce these contract provisions - there is no staff to monitor compliance, no possibility of checking on subcontractors. Yet, the campus might well be vulnerable to criticism that it does not do so; it has accepted an open-ended responsibility of its own. Third, this is an excellent example of what it means for the government to turn the campus into an enforcer of federal regulations and champion of federal social concerns. It means new clauses, new responsibilities, new burdens, but not necessarily any greater compliance.

III Construction

As with purchasing contracts, those for construction of campus facilities must have affirmative action provisions by federal requirement. However, these provisions are much more elaborate because discrimination in the construction industry has been a particular target of the government. The Office of Federal Contract Compliance Programs has recently issued a Construction Compliance Program Operations Manual dealing solely with enforcement of requirements with Executive Order 11246 that is 258 pages long! For the University as a whole and for contractors a great deal of paperwork results, as the contractors must submit:

annotated payrolls by race and sex
projections of the probable workforce on a project in terms of the percentages of various minority groups
information on women employed
promises to try to meet certain numerical goals in these matters
a commitment to publicize job opportunities in minority areas
a commitment to work on affirmative action with the unions.

Out of this the University must generate various reports to the federal agencies involved. The University does try to monitor compliance with affirmative action provisions but almost certainly does not, and cannot, do enough.

This works out to impose various burdens on the campus. For instance, the Architects and Engineers office (A and E) must now conduct two meetings with a contractor, one before the contract is let and the other before the job starts, in which the affirmative action requirements are reviewed and an attempt is made to ensure compliance. The resulting paperwork is substantial. Of course, any additional costs in the construction industry due to these requirements are simply passed on to the campus in the form of higher charges. A and E, again like the Purchasing Department, must keep records and submit reports on all firms contacted, those awarded bids, the minority firms involved in the bidding, and the reasons a minority firm was not selected.

Delays in projects regularly result from the requirement to advertise in minority areas, especially when the job is a very minor one for which a few suitable firms are immediately available. Delay also occurs in waiting for contractors to get all the necessary affirmative action paperwork in from their subcontractors and to submit what is required to the campus. On a major contract, with many subcontractors involved, this can bring a delay of several weeks. Given inflation in the construction business such delays can be very costly; also, the time lost may be very valuable in view of the desire to mesh construction with academic calendar to minimize disruption, or to have the project completed in order to provide space for a newly hired faculty member or for a major research project to get under way.

Title IX affects campus construction in various ways. $250,000 has been authorized to provide facilities for women's intercollegiate activities in recent years. $40,000 has been spent within the past year to put men's showers in the women's gym and vice-versa. Finally, under Title IX it is improper to have an additional "cot" room in women's toilets only. Thus the campus is phasing them out; in fact their removal is currently the one A and E commitment in the campus affirmative action plan under Title IX!

IV Athletics

The money spent on construction to refurbish women's athletic facilities is just a foretaste of what promises to be a very costly set of changes driven by Title IX considerations. The construction thus far is only phase one of a major renovation of the women's gym, to the tune of just under $2 million. The women's athletic program will be a major beneficiary; the Director reports that she currently commands the grand total of 300 square feet in office space, but that the renovations plus additional space and facilities elsewhere will bring it up to just under 10,000 square feet.

In budgetary terms, a large jump in spending on women's programs is now taking place:

1975-76	Budget	$197,000
1976-77	Expenditures	242,000
1977-78	Budget	448,000

In addition to the increase for the coming year, a $90,000 special allocation has been made to the women's program for uniforms, awards, and equipment.

Not far down the road looms the cost of adding significantly to the total athletic facilities on campus, in part because of Title IX. The heart of the athletic plant (aside from the football stadium) at Berkeley is the men's gym, which is old and inadequate, and the women's gym, which even with remodelling will not be up to intercollegiate standards in some major sports. Any significant jump in women's athletic programs will strain the facilities even further, particularly because the women's teams must now make use of the men's gym up to two hours per day, whereas three to four years ago they did not (and could not). The campus plans for new facilities call for over $15 million in expenditures just for phase one of a three part program.

The Title IX self-evaluations of the athletic programs documented what everyone knew to be the case, that women's programs were in a deplorable state and that remedial steps had to be taken, some of which raise thorny problems. One difficulty comes in designing a policy for participation by both sexes on heretofore single-sex teams: true equal opportunity to compete for everyone would mean men could try out for women's teams "with a negative impact on the developing women's program," as the summary report delicately puts it. As to imbalances, the men's program has over $400,000 annually in grants-in-aid, the women virtually none; a substantial new expense will be involved here. The women's track and field facilities, coaching budgets, lockers, and training rooms are all clearly unsatisfactory in light of Title IX. Their equipment, travel, and publicity budgets all need to be sharply increased. The men's program recruits and entertains visiting students, the national women's athletic association prohibits this; Berkeley must decide whether to challenge this policy.

The potential additional costs for the women's programs are striking, and thus far they earn little of the money in gate receipts needed to pay for them. Judging by the men's experience with sports other than football, they never will have such receipts. If Title IX forces truly comparable levels of expenditures, there will be an ominous jump in red ink, for men's programs are currently running at about $2.5 million annually.

Regulations on the Handicapped: A Case Study

Sections 503 and 504 of the Rehabilitation Act, plus the implementing regulations, have set in motion developments that will almost certainly have an enormous impact on higher education institutions. During the past academic year Berkeley has begun the process of complying with the 503 regulations, issued by the Department of Labor, and those on Section 504, signed on April 28 by HEW Secretary Califano. The events of the past year provide an excellent case study on the initial effect of new regulations on Berkeley, particularly on how they can begin to have an impact even before they are issued, and how the difficulties that lurk in almost all new regulations impose great uncertainty on the future obligations and plans of the campus. This case study also clearly illustrates how deeply federal regulations have penetrated the fabric of campus life.

There is no denying that the central objective of these regulations is laudible. It is also clear that the regulations will be of considerable benefit to handicapped students and employees. They force attention to needless restrictions on full participation by the disabled in our society.

Simply by their existence they heighten the confidence and assertiveness of handicapped students and employees, which in turn will produce further progress in dismantling the physical, social, and psychological barriers they face.

In important respects, Berkeley is the most advanced institution in the nation when it comes to treatment of the handicapped. For a number of years it has mounted a program to ensure physical access to campus buildings and programs. An active Campus Committee for the Removal of Architectural Barriers (CCRAB) was established just after passage of the Rehabilitation Act, to address the responsibilities of the campus even prior to any implementing regulations. A program for the physically handicapped was established in the Office of Student Activities and Programs. A handicapped students association emerged. In addition, the CCRAB launched a survey of campus academic buildings--60 in all--as well as the campus grounds, at a financial cost of $22,000 and untold hours of effort. Its published report (in September 1976) contains over 1,000 pages of text, plus accompanying floor plans and maps. Its detailed recommendations for physical changes to ensure access have been integrated into the campus planning of construction and maintenance projects. It was the work of many campus offices and 12 students, and reflected hours of research, site visits, and writing. The CCRAB has also produced a Campus Grounds Access Handbook as an aid to disabled students. Another Committee project was an attempt to develop a film on campus barriers to the handicapped, shot from the perspective of a person in a wheelchair, accompanied by a lengthy journal on the experience of making the film and what had been learned about disabled students' needs and concerns.

In all of these activities, campus handicapped students have played a major role. Important assistance comes from the Center for Independent Living, in Berkeley, one of the leading handicapped persons' organizations in the nation. Due to the presence of CIL, the work of the CCRAB, and other Berkeley efforts, the campus has acquired a reputation as a place where handicapped students can find a good deal of attention, access and services. Thus Berkeley now has the largest population of paraplegic and quadriplegic students of any campus in the nation (over 400).

In other words, Berkeley was not unfamiliar with the concerns that prompted the Rehabilitation Act and had already explored many of the topics addressed in the Department of Labor and HEW regulations. Even so, the regulations will have a substantial impact, as the following discussion makes clear.

I. Emergence of the 503 Regulations

The 503 regulations issued in May 1976 required that the University develop a written affirmative action program within 120 days (to be annually reviewed and updated), institute a review of all job qualifications to remove unwarranted ones that screen out the handicapped, establish a policy of reasonable accommodation to the needs of handicapped employees on the job, and adopt efforts to recruit qualified handicapped people. The University proceeded to put together interim guidelines for the nine campuses, until a complete policy could be designed.

The University Hall Affirmative Action Office then began drafting the permanent guidelines for the campuses. Two analysts worked three weeks on the draft, consulting with five other offices at University Hall including the President's Office, and the guidelines were sent to the campuses for comment. At the Berkeley campus, like the others, there were discussions leading to suggested revisions. When all such comments had been submitted and digested, University Hall issued the final guidelines. They run eight pages in length. They require that Berkeley develop a program encompassing: "special efforts" to recruit and promote handicapped individuals, extensive dissemination of campus policy on the handicapped in regular and special meetings with and for employees and supervisors as well as in relevant places off campus, maintenance of statistical data on all aspects of the program, an annual review of the program, and an annual report to University Hall.

Upon receipt of the guidelines each campus began designing a program for handicapped employees and instituting a survey of its workforce. These programs (running 10-40 pages each) were submitted to the University Affirmative Action Office for approval, which involved a review by attorneys in the General Counsel's Office as well. The program reviews started in June and will be completed in September.

The process by which the Berkeley program was drafted went roughly as follows. An official in the Employee Affairs Office met with people from the State Office of Civil Rights. He then prepared the initial version of the program for consideration by his superiors. Meetings were held with people at the Center for Independent Living and with representatives from the disabled students organization to solicit their views. A revised version then went to the head of the Employee Affairs Office, the Vice Chancellor--Administration, and the Vice Chancellor's Assistant for Legal Affairs. After further revisions, and final approval by these officials, it was submitted to University Hall for final authorization before being promulgated. The entire process entailed roughly three weeks work on the part of the Employee Affairs official, plus a good deal of time by other officials, spread over a three-months period.

The program promises affirmative action to ensure equal treatment for handicapped employees and covers recruitment, training, selection, promotion, transfer, salary, merit pay increases, demotions, and separations. It includes provisions for training sessions to advise managers and supervisors of their responsibilities. Announcement of the program included an invitation to employees who were handicapped, disabled veterans, and Vietnam-era veterans to identify themselves.

Other developments included adding an Employee Affairs official to CCRAB this spring. The committee is about to initiate another study, this time of campus buildings used by employees, buildings not covered in CCRAB's massive earlier investigation. Initial indications are that over 40 additional buildings (and surrounding areas) will need to be studied at roughly the costs of the earlier report. A roster of agencies involved in job placement and counseling of the handicapped has been compiled--some 25 agencies in all--and weekly notices are now sent to them on all job openings (with associated costs). One or more meetings with office representatives is planned, to outline the new policy.

These campus efforts culminated in attendance at a meeting organized by the Affirmative Action Office in University Hall (20-25 representatives from each campus) to discuss the 503 regulations with dragon slayers from the Department of Labor. Handicapped students and representatives from the California Department of Vocational Rehabilitation also attended.

Why this dull itemizing of administrative actions? Simply to drive home the following points. First the regulations imposed, and continue to impose, an administrative burden right from the start (these are the "start-up'administrative costs of compliance) irrespective of the prior commitment of the institution. Second, there was no provision anywhere in Federal communications for help in covering the costs. Third, at Berkeley to design a policy complying with the regulations is always a multi-step process on many different levels, with much grinding and clanking of bureaucratic wheels. Department of Labor regulations get translated into the University's version of English and into University policy; that policy then gets turned into flesh and blood as a Berkeley program; and the program ends up as new office procedures on everything from recruitment to dismissal. Action at each level requires interaction with one or more of the others, plus consultation, checking and rechecking. Fourth, the regulations have loosed a flood of paperwork to implement them, and will continue to do so. University Hall must have an annual report from the campus; this will mean submissions from departments and offices on which to base the report. University Hall needs appropriate data gathered and records kept, requirements which will ripple through the various levels of the campus. Fifth, the time and effort involved on campus this year with the 503 matter can be described, but it cannot readily be computed. It was clearly substantial.

To illustrate another aspect of government regulations on employing the handicapped, here is a brief history of one program over the past two and a half years. In 1973 the campus approached the State Department of Rehabilitation to investigate the possibility of a cooperative venture in which the Department would fund a campus program of on-the-job training for handicapped persons. Arrangements were completed in the Fall of 1974 and in December the first participant was hired. Over the next year, 13 more were added. Apparently no one realized that the exact nature of Berkeley's commitment was unclear. The agreement specified that Berkeley would move the trainees into regular positions at the end of the training period, unless it chose to terminate them. But the State believed that in most cases training would be followed by permanent appointments. The campus regarded this as an experimental set of jobs tailored to meet the needs of these employees for work experience, each job ending after approximately nine months (when its state funding lapsed). Unfortunately, the employees did not see things this way.

The program was not a great success. Of the 14 persons involved, four quit, two were not able to do the work, and five completed their training but were not employed afterwards by the campus. Of the three retained, two were not hired in professional level positions (the original intent of the program) and one chose to work only part time. Four of those not hired promptly filed a complaint with the Department of Labor, alleging discrimination on the basis of handicap. A fifth person also filed a complaint on grounds that she was never hired by the campus because Berkeley would not make reasonable accommodation to her condition. Two of these people and one other participant also filed grievances on campus. What had not gone well before now became an administrative nightmare.

A flurry of activities ensued. There were meetings between campus officials and the Department of Rehabilitation. The Department of Labor, following standard Federal practice, requested a large amount of information pertaining to each complaint and conducted investigations. The campus was also involved in the handling of the grievances. Six state legislators contacted the campus on these cases. There were more meetings. The results were as follows:

1) The campus and the Department of Rehabilitation agreed to share the cost ($7,500) of accommodation to the needs of the one applicant, and she was offered a position. She turned it down.
2) The Department of Labor rejected the charge of discrimination in the above case and three others.
3) In the final Department complaint the campus agreed to a six-week back pay settlement, with no admission of fault.
4) Of the three grievances, two were rejected by a hearing officer or dropped. In the third, the hearing officer found that Berkeley had not fully communicated its understanding of the temporary nature of the job to the employee, and recommended he be employed in his old position for one year, with an attempt to find him a permanent position.

The total costs to the campus are impossible to assess with precision. The Office of Employee Affairs estimates that the Department of Labor complaints involved 520 man-hours, largely among professional and managerial personnel, that the grievance cases that went to hearings required 300 man-hours, and that the settlement in the one grievance will cost $20,000 over the next two years. Also involved was the Berkeley law professor who served as one of the hearing officers. The last grievance was finally resolved in June of this year, well after the termination of the program.

The entire episode has left a bitter taste in the mouth for several Berkeley officials. They feel the campus made a good faith effort to offer an unusual opportunity for training and work experience, and then got hammered by the beneficiaries, who were able to involve outside agencies and invoke elaborate procedures because the Department of Labor made no initial attempt to see if the complaints had real merit. This is not the best frame of mind in which to be approaching implementation of the 503 regulations.

Irrespective of the merits in these cases, an experience of this sort confirms Berkeley suspicions that programs and regulations on the handicapped are full of potential pitfalls, that many new grounds for grievances and complaints are being created and thus every agreement, policy, and action in this area needs to be very carefully considered beforehand. It also encourages writing everything down, constructing a paper trail to justify one's actions in the event of a later challenge. It is also evidence confirming that federal officials will not assume good faith on the part of the campus despite its prior record and will treat almost any complaint seriously, thereby imposing a great deal of work.

II. The 504 Regulations

Perhaps the first point to be made about the 504 regulations is that they stem from a relatively brief passage in the law, and run over 200 pages in length; thus is a thin strand of Congressional intent spun into a regulatory web. A second point is that the 504 regulations do not agree with the 503 regulations on many matters, which is only to be expected since they were drafted by separate bureaucratic fiefs:

1) 503 regulations call for the campus to attempt to discover before employment if the applicant is handicapped. 504 regulations forbid asking this of an applicant.
2) 504 speaks of institutions taking voluntary action. 503 refers to affirmative action, a much more powerful term.
3) Under affirmative action, there is a strong tendency to move to numerical goals and timetables for implementation. The 504 regulations have none of this.
4) 503 mentions veterans. 504 makes no reference to veterans.
5) 504 requires an institutional self-evaluation. 503 has no such requirement.
6) 503 and 504 offer different definitions as to who is to be considered handicapped.
7) 503 requires that a lengthy assurance-of-compliance clause be inserted in each University contract with the government and each subcontract let by the University, using language written by the Department of Labor. 504 only requires that the University file an assurance-of-compliance form with HEW.

The 504 regulations are new but already they have resulted in expenditure of much time and attention. A fair degree of preliminary attention was given to 504 since draft HEW regulations had been around for some time, had aroused numerous controversies, and were not signed by the outgoing Secretary of the Ford Administration. Thus the major elements in the regulations were well known.

Once they were promulgated, the University Affirmative Action Office organized a task force to draft a University policy, which was then discussed in five meetings with campus representatives and at a gathering of the University's Chancellors. Then it was sent to the campuses for discussion, revised slightly, and issued. The Affirmative Action Office also convened a two-day workshop on 504 in July, at a cost of over $3,000, to train campus representatives on the nature of the regulations and the responsibilities they define. Officials from HEW and the State government attended, along with handicapped students and representatives of handicap-oriented organizations.

The University's own policy and guidelines statement on 504 runs to over 50 pages in text and appendices. Drawing on the regulations, it offers definitions of the handicapped, sets various deadlines for campus action, sets forth procedures for the required campus self-evaluation, outlines the publication requirements (including the language of the compliance statement to be used), and lists the many requirements in the area of academic programs. Efforts went forward on the Berkeley campus to assess the implications of the regulations. A staff person in The Vice Chancellor's Office spent some four weeks of effort on the regulations. He was involved in regular meetings with The Vice Chancellor, other officials on campus, and with those at University Hall, he drafted the resulting reports and memos, and he will serve as the chief person overseeing implementation of the regulations on the academic side of the institution. He also attended the 504 workshop. Thus the level of his effort was, and will be, considerable and a substantial shift in the nature of his responsibilities is in process. Much of this work was carried on in cooperation with the staff assistant to the Vice Chancellor--Administration who is involved with both 503 and 504 regulations. She is also being named a campus coordinator on handicapped matters.

The topics discussed at the two-day conference, referred to above, provide an introduction to the scope of the 504 regulations. They included the following:

1) Deadlines. The 504 regulations specify multiple, somewhat confusing deadlines:

   On August 2--all academic programs had to be "accessible."
   By September 1--notices of compliance had to be in all published materials.
   By December 3--interim plans for modifying physical facilities to HEW are due.
   By June 3, 1978--an institutional self-evaluation must be completed.
   By June 3, 1980--the necessary modifications to physical facilities must be completed.

   It is hard to see the logic in requiring an institution to make its programs accessible by August 2, and then in the following year conduct a self-evaluation presumably designed to uncover ways in which its programs are not accessible. The normal (if such a word applies) order of things is here reversed. No one with a sense of the operation of a university would set the August 2 and September 1 deadlines in the first place, not if full compliance with the regulations was a serious objective. Are these deadlines flexible, asked participants at the workshop? They are not, said the HEW representatives.

2) Admissions, and pre-admission identification of the handicapped. It appears that Berkeley can now inquire if an applicant is handicapped only if it is recruiting to remedy past failures in admitting the disabled. Otherwise such information cannot be requested as part of the admissions process. If the campus does recruit, it lays itself open to the burden

of having to substantiate past deficiencies, which in turn may bring trouble of another sort--claiming past deficiencies can open the door to present day complaints.

An uncertain element in all this is injected by a recent California State Assembly resolution which requires the University to mount efforts to correct the inadequate handicapped student admissions of the past. This would have the effect of forcing recruitment by means of asking students if they were handicapped, whereas the clear intent of the 504 regulations is to have the disabled considered on their merits by not uncovering the fact of their disability until after the decision to admit has been made.

The rather awkward situation that results is illustrated by the fact that, since the campus must be prepared to make reasonable accommodation to handicaps, it can, and probably must, attempt to identify disabled students once they have been admitted and before their arrival. This is one of several places where the campus is given slightly exasperating instructions on the conditions under which it is to be allowed to be of assistance.

The regulations' effect on admissions extends to the criteria that can be used. Such criteria, including standardized test results, cannot have a disproportionate effect on the handicapped applicant unless they have been validated as successful predictors of later academic performance and no alternative criteria are available. The potential difficulties here are legion. As it happens, it is very difficult to validate any admissions criteria beyond a certain point, and the experts on these matters disagree. And predictors are based on the subsequent performance of regular students, whereas it might be argued that the prediction will be off for a disabled student if "reasonable accommodation" is made to his needs. Someone wishing to push it would seem to be able to force a rejection of virtually all of Berkeley's admissions procedures and criteria where the disabled are concerned.

3) Grievances. University Hall is trying to devise a common procedure for all student complaints under the regulations.

4) Publication requirements. Several different notices have to be inserted in a wide variety of campus publications. It was also suggested by HEW that pictures of handicapped students in campus catalogs and brochures would be most appropriate. It was made clear that campus publications, particularly on handicapped policies, must be available in media suitable for the handicapped--cassettes or braille, special teletype machines for the deaf, etc.

5) Employment. Questions arose about pre-employment medical examinations. The regulations prohibit requiring them for the handicapped unless they are also required for "other" applicants, and if they do not seek out or measure the severity of the handicap. The question is: does "other applicants" mean all other applicants for a particular position for which a handicapped person is being considered, or all applicants to all campus positions? HEW isn't sure. As with admissions, such a medical exam and other elements of accommodation to a handicap can occur after the job has been offered. Applicants with progressive and unstable diseases must be hired with their current condition only in mind.

6) Structural modifications. In most cases, says HEW, providing access solely to the first floor of buildings would not constitute compliance. As access to upper floors is typically provided by elevators, and since elevators may be damaged or shut down in emergencies (fire, earthquake, power outage) it may be necessary to assign able-bodied employees to assist the handicapped to safety--presumably by carrying them.

The accessible entrance to a building must be "to the greatest extent possible" the main entrance. For some buildings this can pose a difficult choice: an expensive modification of a very inaccessible main entrance versus a cheaper alteration of what is clearly a secondary entrance.

7) Housing. Housing facilities on campus must be accessible "on the whole." The same must be true of off-campus housing to be listed by the campus housing office, with landlords submitting an assurance of compliance to the campus Housing Office. Space in campus housing can be preempted for the disabled. It appears that for this purpose the campus may ask if a student is disabled, as long as this is separate from admission! HEW believes the campus should permit non-student attendants to live with the disabled in student housing.

8) Academic programs. It is up to the campus to provide, making reasonable accommodations, access to classes, labs, and other academic activities in the same settings as those for other students where this is possible. Thus if a department offers seven sections of a course, having only one suitable for the handicapped would be a violation.

The tape recording of lectures cannot be prohibited by a professor. A standard copyright form will be used to protect his rights.

Laboratories must be made accessible. If the lab tables are structurally a part of the building, the campus must modify them within three years. If they are simply lab equipment, they were to have been modified by August 2.

Handicapped students cannot be readily regarded as possible safety hazards in labs. The burden of proof is on the campus in any claim that this is so. In discussions, HEW suggested that, for example, a person subject to epileptic fits monthly or even weekly could not be considered an undue safety hazard. Only daily, perhaps!

9) Insurance. 504 regulations require that all campus insurance plans not treat campus access to the handicapped as involving higher risks, to be reflected in policies and premiums. (It is hard to imagine the campus enforcing this.)

10) Physical education. Attempts must be made by the campus to include the handicapped in regular physical education classes. Only where this does not work out can special classes be set up. There was pressure from some students to have HEW determine when access to regular PE classes on campus was not working--something HEW does not want to do.

Also the campus will have to decide if it will offer financial support to a handicapped student who wishes to participate in a conference sport in which the University does not compete. If there are now campus medical restrictions on the participation of people in contact sports with certain physical limitations, i.e., one eye; they must be reexamined.

11) Auxiliary aids. The campus must supply a good many auxiliary aids for the handicapped--braille books and readers in the libraries, for example. The largest deficiency at Berkeley, as elsewhere, is in facilities and aids for the deaf. Many of these aids are paid for by the Department of Vocational Rehabilitation but many others are not, for the Department does not supply aids to individuals who have worked in the past, regarding them as able to support themselves. Late in August the campus learned that the state will not fund provision of interpreters for the deaf for this coming year. As they appear necessary to make programs "accessible," Berkeley must somehow find $30-40,000.

12) Financial aid. The campus must consider the needs of the handicapped. It must not take into account the assistance they receive from other sources because of their disabilities. This may well be a controversial limitation, for it is the custom to stretch financial aid resources as far as they will go by taking a student's alternative sources of support, whatever their origin, into account. It will be argued that a handicapped person with adequate resources should not be granted aid when there are other needy students who therefore get less.

13) Service organizations (such as fraternities). The campus must have such organizations submit assurance-of-compliance statements, and if their housing remains inaccessible, the support of the campus must be withdrawn.

14) Community input. On all matters relating to the handicapped, the campus must have community input (not just student input) either by handicapped persons "or their representatives." This is a particularly intrusive provision. Berkeley, like other institutions, has long resisted efforts to require participation by outside groups in its internal decision making, citing principles of academic freedom and campus autonomy.

15) Accommodation. The campus must refrain from overaccommodation--treatment of the handicapped must be as normal as possible.

The HEW officials who attended the workshop were helpful, within limits, in explaining the government's interpretation of various elements in the regulations, and in pointing out that enforcement would largely consist of the investigation of specific complaints. However, they could hardly remove the uneasiness that arises when Berkeley people confront words like "reasonable", "substantially", and "on the whole" that define their responsibilities, or when it is unclear whether access to a course will be pushed to the point of requiring access to a particularly popular instructor if there are many sections of the course offered. It is easy to predict an endless chain of queries and shifting interpretations in the months ahead, partly because HEW assigned responsibility for implementation to its regional offices but gave regional officials only two days of training on the regulations. It was also clear from the workshop that HEW has no clear idea of the impact of the regulations on a campus like Berkeley, no notion of the costs involved, no well-developed sense of where serious problems of interpretation will arise.

Many of the most severe problems with the 504 regulations will arise because they confuse equal access for handicapped persons, to jobs and academic programs, with equivalent treatment. In fact, handicapped persons often require special arrangements precisely to equalize access, but HEW makes such special arrangements more difficult to administer at the same time that it mandates them. For example, it will be difficult to properly prepare facilities and services for the handicapped when Berkeley is not allowed to find out that a prospective student or employee is handicapped, and the exact nature of the handicap, until relatively late in the admissions or hiring process. It will be hard to draw the line between "providing the full benefits of the institution" and making adjustments to ensure that necessary medical care, i.e. physical therapy, is available.

In general, the 504 regulations appear to be more flexible than those for 503, more appropriate to higher education institutions. 503 regulations, like many other Labor Department policies, fit industry, business, or civil service personnel models far better than academic ones. Still, the 504 regulations are, in many respects, among the most intrusive regulations ever written vis-a-vis higher education. In addition to the areas mentioned above, Berkeley cannot assist anyone who provides financial assistance that discriminates against qualified handicapped people, it cannot provide placement services to or assist any prospective employers that discriminate on the basis of handicap, it must provide the necessary counseling services, and it must reexamine all hiring criteria to ensure they are job-related. Such requirements will bring significant costs at Berkeley both in initial changes and in the long-term organizational arrangements involved.

III. Physical Facilities

The 503 and 504 regulations, plus Division 5 of Title I of the State code--"Access to Public Buildings by Handicapped Persons"--have numerous provisions pertaining to buildings and facilities on the campus. Berkeley has had an ongoing effort to provide access for a number of years, but this does not mean it will escape having to bear substantial costs in the future. The campus Architects and Engineers office is now in the early years of a program that planned to spend $500,000 per year in capital construction for the handicapped over a 10-year period. The 504 regulations may well make it necessary to complete the program by 1980. In this and other ways, regulations on handicapped access have begun to sharply alter Berkeley's construction and deferred maintenance project priorities.

In addition to the 10-year program, roughly one-third of all additional campus remodeling expenditures are made with the handicapped in mind, and approximately the same percentage of the Architects and Engineers office workload and costs is involved. For 1976-77 this was $124,000. In the list of major projects underway or planned as of May 1977, 24 out of 59 projects are identified as having satisfaction of requirements for the handicapped involved. For minor projects, the figures are six out of 10. Five out of 19 major repairs projects are of this sort, plus seven deferred maintenance projects (as of March 1977).

It is impossible to sort out the renovation costs traceable to the handicapped on projects with multiple objectives, and in construction and remodeling it can be difficult to determine when money was actually spent. However there are various examples that illustrate these costs:

1) In the Optometry Building, it was held inappropriate to have some handicapped people able to observe clinical work only on the floor of the examination room, so the elevated observation room was made accessible via installation of a $21,000 lift.
2) Wheelchair handicapped have always watched varsity basketball games from a reserved section on the main floor. This was held to be out of keeping with the need to provide disabled people with equivalent arrangements, so $270,000 is being spent to install a lift to a 16-seat section in the mezzanine. $7,000 is being spent for a hoist to lift certain handicapped out over and down into the gym pool.
3) $148,000 has been spent on alterations to the residence halls for the disabled. They had been housed in a section of Cowell Hospital (with quick access to medical services in mind) but this has been rejected on grounds that the disabled should be as integrated into campus life as possible. To make a dorm accessible means alterations to halls, rooms, doorways, toilets, and meeting rooms, adding ramps and elevators, adjusting phones, etc.
4) $47,900 has been allotted for construction of a lift for the central administration office building on campus.
5) $4,000 is being spent to provide handicapped ramps on campus crosswalks.

Other projects include installing visual fire alarms (for the deaf), braille signs at elevator entrances and doorways, and audible elevator alarms or signals (for the blind). Also involved is the lowering of elevator buttons, fountains, room threshholds, and campus emergency and pay phones--the phones are now fairly high because of trouble with children in the past. On of the largest categories of planned expenditures for the next several years is the installation of elevators--to correct both handicapped and California Administrative Code deficiencies. While it is impossible to say what the exact figure with respect to the handicapped will be, the total cost of the elevators will be roughly $2 million.

As might be expected there are seemingly endless complications, delays, and crises associated with these changes. For example, the campus Pacific Film Archives very much needs to move and has an ideal new location; but access to the handicapped will be virtually impossible to provide in that location, so the move has been delayed to see if State authorities can be convinced that provision of alternative film services for the handicapped should be sufficient. In one major campus building, A&E paid architects to design the remodeling to provide access to all floors, not just the main one, anticipating the thrust of 504. But State budget analysts objected to the additional expense since the letter of the law did not (yet) require access to all floors, so the architects were paid to take out some of the related features. Eventually they will have to be put back in.

Of course, the regulations keep changing. The state-mandated size of toilet stalls for the handicapped was recently altered from 3 X 5 feet to 51 inches X 5 feet. Two projects had to be redesigned. It costs money to add such space, or it costs space in the building for its other functions.

A&E feels that such a change is unwarranted and would not comply if it were not mandatory. Also, the regulations create one more set of approval points in the construction process, involving delays and additional paperwork, and they add one more set of crises. Several rush alterations were mounted by A&E this past year when offices on campus hired handicapped persons and then requested that access be provided to their premises within a month.

One area where alterations for access may be particularly costly is campus laboratories. Many undergraduate laboratory courses are taught in labs set apart for this purpose, so that providing undergraduate physical access to the rooms and equipment involves a limited number of labs. However, in many departments the graduate students and lab technicians would normally be expected to work in any of the many labs available. It is extremely rare that the major science departments have severely disabled people at such advanced levels but if they must eventually make provisions for access to all significant labs the costs would be very much greater. There are also general problems in labs with reference to the handicapped. For instance, they are hazardous places where fires may break out, small explosions occur, dangerous spills of materials take place--where quick physical mobility is important for safety (to run to a fire extinguisher, leave the room or the building, run to an eye wash fountain, etc.). Making them suitable for persons of impaired mobility could involve major structural changes and enormous cost. Many labs presently require that people stand and walk about for numerous operations, and use equipment that requires considerable manual dexterity, posing still more access problems.

IV. General Comments

It should be emphasized that actions with regard to the handicapped must be in accord not only with Federal regulations but with State ones as well. The Department of Vocational Rehabilitation finances many services for the disabled and is an interested party in Berkeley's programs. Recently, State Assembly Concurrent Resolution 201 called for the elimination of "underrepresentation" of handicapped persons in state higher education institutions by 1980 by the provision of the necessary services and the development of appropriate plans. There are a number of difficulties here. One is that the plans would have to be drawn up before the 504-mandated self-evaluation studies are completed, with high potential for duplication and waste.

Another is that the notion of "underrepresentation" implies that we know how many handicapped persons there are in the state. This is where definitional problems have an effect. ACR 201 uses a different definition of "handicapped" than the Federal regulations, one which includes learning disabilities. Assembly Concurrent Resolution 196 (1976) called for a comprehensive needs survey of California's disabled population, but the Department of Vocational Rehabilitation recently reported that this is simply not feasible. Without a commonly accepted definition of "handicapped" it is difficult to be certain that survey results are accurate or meaningful. There are problems in getting all those who are legally handicapped to identify themselves as such. Finally, the nature and degree of disabilities vary widely, so that a survey must try to get at what may be extremely small portions of the population; the smaller that portion, the larger the sample must be to reduce the chance of statistical error to something like ± 10%, and thus the larger the cost. The Department concluded that a comprehensive survey might very well cost in excess of $100,000,000.

There are varying estimates as to what proportion of the adult population is handicapped. State officials have used figures in the 12-15% range, the current Department of Vocational Rehabilitation estimate is 27%, and an HEW official once told campus officials that under HEW's elastic definitions it might be over 50%. After all it includes alcoholics, heart disease and cancer victims, etc. The campus is caught in something of a quandry here. If the state stresses affirmative action to correct underrepresentation, and 504 regulations also imply this, then Berkeley might well prefer to have a great many people on the campus designate themselves as handicapped. On the other hand, to try to contain the costs of providing proper facilities and services or the vulnerability to complaints, it would be attractive to have far fewer people considered as disabled.

The response by University Hall to ACR-201 envisions the creation of all sorts of special counseling services for the handicapped. It proposes that handicapped persons be hired in various offices as resource persons, to provide information and assistance. It anticipates creation of a "handicapped student coordinator" for the campus, sensitivity training, special wheelchair storage and maintenance facilities, and special transportation facilities, among other things. Nowhere does it address possible funding.

Another administrative quandry arises whenever any new regulations appear, and it did so on the 503 and 504 regulations on campus and in the University. The regulations are never all that clear and precise, and never exactly fit the Berkeley situation. Thus there is a strong temptation to rewrite the regulations in issuing the necessary campus policy. The trouble with this is that two sets of regulations then exist, the government's and Berkeley's (and when the University administration is involved, there will be three). They do not correspond exactly, so confusion will result, questions will be raised, and further administrative difficulties arise. However, the alternative of simply circulating the Federal language as binding means that the campus is letting the government write its policies. It also means living with the infelicity of language so typical of the regulations, and their inapplicability to many aspects of campus behavior.

The last general comment is the most important. The new Federal emphasis on the handicapped highlights, in a profound way, the lack of any national priorities with respect to the imposition of burdens on higher education institutions to promote social objectives. The nation has moved through two waves of civil rights concerns in recent years, on ethnic minorities and women. Berkeley, in particular, has been caught up in new administrative arrangements, additional expense, and institutional self evaluation with regard to these concerns. Leading officials on the campus believe there is an emotional limit on how many new rules, reports, and self-evaluations people can take seriously, and that the handicapped regulations may well push them over the limit. This is particularly a problem because, in comparison to ethnic minorities and women, those popularly deemed handicapped (rightly or wrongly) constitute a far smaller proportion of the population, and because (again, rightly or wrongly) many see provisions for the handicapped not as simply removing unwarranted barriers but as involving some very elaborate special arrangements.

Thus administrators here not only wish to avoid appearing silly or ridiculous by having to attend to all the details in these regulations, and are hesitant to impose still more burdens on their employees, they also worry about the possible psychological effects of the regulations. Once the point of tolerance is passed and exasperation sets in, the regulations will not be taken seriously, compliance will be perfunctory, and the self-evaluations will rigidify such feelings rather than provoking a thoughtful analysis of them. Even more serious, such a reaction would dilute or erode the tenuous legitimacy of affirmative action generally, thereby damaging ongoing efforts to meet the needs of women and minorities. It is difficult enough to convince everyone that discrimination exists and something must be done about it. Piling one set of intrusive regulations, evaluations, and reporting requirements on top of another, each one more concerned with details than the last, can make the entire affirmative action effort seem petty, bureaucratic, insensitive, and vindictive.

Thus Berkeley has long complied with the spirit of the handicapped regulations, but it does not eagerly embrace the details of the new requirements. One can only hope that compliance does not degenerate into endless attempts to get all the proper procedures down right, at the cost of absorbing the emotional energy and commitment vital for a true sensitivity to the needs of the handicapped.

Regulations on Age Discrimination

The Age Discrimination in Employment Act of 1967 and the Age Discrimination Act of 1975 have had only a modest impact on the campus during the past year. However, it is anticipated that the effects of recent concern and regulation pertaining to older Americans will grow in the years ahead.

The Age Discrimination Act of 1975 bars discrimination on the basis of age, using language modeled on Title VI of the Civil Rights Act. The provisions do not go into effect until January 1979. However, the U.S. Commission on Civil Rights has begun to prepare a study of "unreasonable" discrimination based on age in programs receiving federal assistance, and its findings will presumably be the basis for regulations and enforcement. One area on which the Commission is focusing is higher education, in particular admissions and financial aid policies and procedures.

In preparation for a public hearing on age discrimination matters in San Francisco in June, the Commission contacted Berkeley and arranged for a visit by one of its staff to the campus. The staff member held a lengthy meeting with the Director of the Office of Admissions and Records, the Assistant to the Vice-Chancellor-Administration (Legal Affairs), the Assistant Vice-Chancellor, an Associate Dean of the Graduate Division, an Associate Dean of the Law School, and a representative from the Office of Finarcial Aids. The meeting and written materials supplied by these offices dealt with:

1) the use of age as a factor in admissions.
2) the relationship between age and various admissions criteria, such as grades and test scores.
3) the relationship between age and the allocation of financial aid.
4) any evidence on age as a factor in academic success in various fields of study.
5) the training of people to be of service to older people in the community.

This preliminary catalog of interests suggests that age "discrimination" could raise concerns in connection with a wide range of campus activities from admissions to curriculum. It should be noted that age limits, explicit and implicit, concern not only older persons in campus activities but young people as well.

The campus has had at least one official complaint lodged with the Department of Labor under the Age Discrimination in Employment Act of 1967. This complaint was filed against the Campus Police department in 1975 and has not yet been fully resolved. The Labor Department has produced a series of requests for a good deal of background information on the position in question, the selection procedures and criteria, the specific evaluation of the applicant, the current age of the members of the police department, and their age when hired. Pulling such information together and preparing a response has taken a good deal of staff time. Settlement of the complaint was delayed for a while because the matter had been referred to the Wage-Hour Division of the Labor Department which also was handling enforcement of the Fair Labor Standards Act, and a Federal District Court decision last summer held that it was unconstitutional to apply that Act to state and local government employees. Hence the Wage-Hour Division had to take stock of what it could and could not be enforcing.

An omen of things to come may be a dispute that erupted in one department this year. The department had a faculty position to fill, and there was disagreement over whether to seek an experienced person at the full professor level or bring in someone young. In view of the department's current age profile, the decision was to go for the latter, whereupon one of those on the losing side charged that this represented age discrimination. This opens the prospect of departments having one of their cherished mechanisms for retaining intellectual vitality severely constrained.

Complaints and Grievances

Anyone with a serious complaint against Berkeley can always get a lawyer, and sue. Short of that, he or she can get a federal agency, and complain, which increasing numbers are doing. The area of complaints and grievances is one of the most significant in terms of effects on Berkeley. These effects are of the following sort. First, the laws and regulations on minorities and women have created new rights or defined them in a new way; thus they have created new grounds for complaint and new offices to which complaints may be directed. Since federal enforcement of these regulations often comes in the form of investigations of complaints, the regulations almost invite them. Second, the regulations have mandated creation of new grievance mechanisms within the campus, generally more detailed and formal than the prior ones. Third, investigations of complaints have time and again imposed a severe burden on various campus offices, and have constituted intrusions so nettlesome as to arouse official resistance in a number of cases. Common examples include agencies seeking information on all other applicants for a position which someone claims he was denied due to discrimination, or detailed information on a department's budget and personnel on a complaint by someone who was laid off, or information on all hirings over a certain period to see if someone who has complained was referred to all possible jobs. Such information must always be screened to preserve confidentiality, which takes time, and it is rarely lying close at hand ready to go off with the next post. The intrusiveness of current requests has led to several recent meetings to revise campus and University policies on how to respond. Fourth, by provoking all of the above, the grievance aspects of regulations contributed greatly to the decision to create an office of Assistant to the Vice Chancellor - Administration, Legal Affairs, so that the Campus might have the benefit of legal advice at all stages in dealing with grievances and complaints.

The records of the Legal Affairs Assistant indicate that the campus has had twenty six complaints lodged with the Equal Employment Opportunity Commission and thirty with the State Fair Employment Practice Commission since 1972. Over forty alleged racial discrimination and seven alleged both racial and sex discrimination. In addition, fifteen complaints against Berkeley have been filed with HEW (the Office for Civil Rights) since 1970.

To understand campus irritation with these matters some background information is necessary. To begin with, state and federal agencies have consistently resisted establishing a preliminary review mechanism that would weed out frivolous or spurious complaints from ones that merit serious investigation. Instead the agencies take up the complaints as they come in, and send out requests for masses of information deemed pertinent to the investigation. It is not uncommon for the agencies in the course of investigating, to discover they need additional items of information which they insist the campus supply. When queried on this they cite those sections of the regulations which bind the campus to supply the information pertinent to enforcement actions and define failure to do so as non-compliance.

Another prominent feature of the investigation process is that it has no terminal date assigned in advance. Numerous complaints are taken up, fall from view, then are suddenly reopened, sometimes after two to three years have elapsed. Thus in the past few months the campus has been hit with a flurry of investigations as two agencies moved to clean out a backlog of complaints that had accumulated. Typically, the reopening of a case leads to new requests for information from, and interviews with, campus personnel. Even when a complaint is handled by an agency with dispatch the entire process may be interminable for the campus, because it is not uncommon for the disgruntled to file simultaneously or serially with the several different agencies available, or to couple a complaint to an external agency with the filing of a grievance on the campus. It is seldom that action by one agency is held by another to preclude its getting involved. (EEOC does let FEPC check out most complaints filed with both first.) In one Berkeley case this year, the person filed a grievance on campus, a complaint with EEOC, one with the state FEPC, and another with the Department of Labor, and when certain information was not released by the campus a request for it was placed under the Freedom of Information Act. Several years ago the League of Academic Women at Berkeley filed a complaint with HEW, eight of its members filed with EEOC, and they used the Title IX report Berkeley sends to HEW to identify other possible grievants and create a class action suit. Resolution of all these simultaneous actions took two-and-one-half years.

The nature of Berkeley's difficulties can be set forth by a few examples. One complaint lodged with HEW in 1976 alleged racial discrimination as the cause for failure to be admitted to a graduate program. Berkeley's view, set forth in a letter by The Vice Chancellor, is that any preliminary investigation at all would have revealed the complaint to be groundless in view of the academic background of the student. Instead, the HEW regional office requested submissions within thirty days of:

the admissions criteria used in that department, the weight assigned to each, and any admissions formulae used;

a racial profile of departmental admissions for the past two years;

a racial profile of all applicants who were accepted and rejected in the past two years and the basis for the decision in each case;

all application forms, brochures, etc. issued by the department.

This eventually involved nine to ten people in three different campus offices, including the work of programmers to prepare a special computer run.

In July 1977 the regional HEW office announced it had taken up a complaint alleging racial discrimination in hiring for three positions in 1973 and 1974. It requested "in no more than thirty (30) days from the date of this letter":

copies of the position announcements and job descriptions;

a description of the Berkeley procedures in 1973-74 "to announce a position, advertise, identify candidates, secure applications and background material, evaluate and rank candidates, interview, select and hire candidates;"

written and unwritten procedures on selection committees;
any changes in selection procedures since 1973-74;
name, title, sex, ethnicity, and role of each member of the selection committee in making the interim, semi-final, and final selections;
copies of applicants' files for the three semi-finalists for one position, the successful candidate for a second, and two candidates for the third;
any other selection information, especially telephone notes;
several committee reports;
"Any additional information that would assist us."

One case that is a Berkeley classic concerned alleged discrimination on a grade given in an introductory undergraduate course. It was initiated in 1972, suspended in 1974, reopened in 1976 and finally closed in April of this year. The file on the case is an inch thick, the chronology of major steps and communications runs to four pages, and the case eventually came to the attention of the Office of Admissions and Records, a Provost, the Vice Chancellor, the Legal Affairs Assistant, the Faculty Committee on Courses, a college review committee, and the instructors involved - there is even a letter to the student from the President of the University in the file. Information was gathered on grading procedures, grades collected for seven hundred thirty students in the course that year (by race), surveys conducted among the students enrolled, and eight faculty members interviewed who were either involved in the original grade or considered appeals. The student's complaint was dismissed.

A final example involves an employee who was not promoted in 1968 and 1969. In 1970 a major reorganization occurred in her department in the course of which several men advanced to new positions but she did not, another woman being appointed to the position she sought. HEW received a complaint and requested a good deal of information; it also interviewed twenty-two people. In 1972 it concluded the complaint was justified, that the employee had been left in a less competitive position for the 1970 appointment because of the lack of promotion in 1968 and 1969 and that there were grounds for suspecting discrimination in the 1970 appointment.

Berkeley insisted no discrimination had occurred, pointing to the hiring of a woman to the position and the advancement of women to other equivalent positions in that department during the reorganization. In July 1973 HEW requested a great deal of additional information. In 1974 a meeting between Berkeley and HEW representatives produced no agreement. In October 1975, HEW announced it was reopening the matter because of Berkeley's failure to take action, scheduled an on-site visit, and presented fifteen new requests for detailed information. Still more information was requested in 1976.

In January of this year a major negotiation session was held, so the two sides could press their views. The government came on strong, suggesting that a formal hearing might well rule against Berkeley. The Vice Chancellor led the Berkeley team, thus bringing him directly into the matter. After this meeting The Vice Chancellor soon found himself trying to fend off HEW on the one hand while negotiating with the Berkeley department on the other, trying to find a solution that satisfied HEW but did not outrage the department with its assertions that nothing in the nature of discrimination had ever occurred, and that HEW should not be bought off for charging something it couldn't prove existed.

In March Berkeley proposed that the employee be transferred, and given a raise plus a chance for early promotion. HEW held out for a more substantial promotion. In June Berkeley rejected this and increased its earlier offer. HEW and the employee accepted in principle and the matter was just concluded. Well, almost concluded. The Department of Labor, it seems, reviews such settlements by HEW and it wants an additional reference placed in the agreement. University Hall is resistant but Berkeley is pressing to accept it and all is virtually settled. Thus ends what has been, in some ways, a nine year old case. Berkeley holds to its view that no discrimination occurred.

Berkeley has several times complained to HEW and other agencies that the requests for information are excessive, but to no avail. HEW's Office of Civil Rights, for instance, is guided by its Manual For the Investigation of Allegations of Employment Discrimination at Institutions of Higher Education which states that institutions must supply pertinent materials - "the determinance of pertinance is that of OCR" - and must permit their employees to be interviewed - "refusal of an employee to give an interview ... constitutes a refusal by the employer to provide information." When the Legal Affairs Assistant recently asked the Fair Employment Practices Commission to put a verbal request for information on five people in written form, FEPC wrote that a verbal request was sufficient under California law (the FEPC Act) and that it was

> a needless and questionable delay as well as an unnecessary burden to make written requests ...

Berkeley would like to be able to reply in kind.

Unless one is willing to believe that these agencies promoting civil rights recruit people with a mean streak, there must be something in the nature of their relationship with the campus that leads to these results, and in fact there is. To begin with, while the law calls upon the campus to make a good faith effort to improve the position of women and minorities, the starting assumption must be that discrimination has occurred and is probably continuing. By focusing enforcement on complaints, within the general assumption of discrimination, the agency necessarily assumes an adversarial stance vis-a-vis the campus. Moreover, in a complaint the agency functions more or less as an advocate of the employee or student, not as a neutral arbitrator - the agency's responsibility under the law is to serve as an avenue for redress, not simply as a place where people may turn for an orderly analysis of the facts of the matter.

This is the source of the frequent campus lament that in dealing with the Office for Civil Rights or EEOC, the campus is constantly being asked to prove its innocence. From the way in which the situation is structured by the law and the regulations, this is the stance the agency must take. This is one reason why the agencies are chary of making preliminary investigations before seriously taking on a complaint; to do so is a form of collusion when the agency responsibility is something like that of representing a client. The normal objective in preliminary contacts among adversaries (as between lawyers for the two parties in a lawsuit) is to get the other side to concede that it is at fault. Since this is not at all what Berkeley has in mind in suggesting such a meeting, it is not surprising that the agencies are unresponsive. Thus there is some merit in a suggestion, by an eastern law firm, that a "circuit rider" be empowered to go around to campuses and review complaints, try to settle any that have a "threshold validity", and only after this had failed to have the regional agency office involved - the idea being to institutionalize an objective third party between the agency and the campus.

Once it is understood that the campus must prove it did not discriminate, the requests for very elaborate information are predictable. Every social scientist is familiar with the difficulty of proving that something did not happen. The context keeps changing and the range of possibly relevant information constantly grows. The complaint is that discrimination occurred in a particular case, so Berkeley supplies a good deal of information on that decision. But Berkeley is a party to the case and may conceal something. Or it may not have practiced discrimination in this case but rather by a discriminatory pattern in prior decisions on the individuals and others like him,so that the outcome in the particular case seems non-discriminatory when in fact it is not (a standard argument offered by women's groups, for example). Thus Berkeley is requested to supply information on prior decisions and parallel cases. Berkeley then points out, in doing so, that the cases aren't comparable, that this is only one part of the relevant context, that it's hard to distinguish any longer between legitimate requests and a fishing expedition. And so it goes.

Keeping in mind the agency's responsibility as adversary helps explain other aspects of the complaint procedure. Bargaining theorists are familiar with the fact that a good deal of negotiation and bargaining among adversaries occurs long before it is officially opened; in fact the outcome of the formal negotiations frequently reflects what has gone before. In complaints filed against Berkeley with an agency, the bargaining opens with the agency letter of notification and any requests for information. It is this that sets the language of such communications, that leads to their often peremptory tone. From the agency viewpoint, the very process of getting information from the campus is a form of bargaining over the possible outcome of the complaint.

Related to this is the fact that an agency is, realistically speaking, rather short on enforcement power. The campus does not readily perceive this to be the case, but it is in fact so. At numerous places in this report, reference is made to the fact that agencies are constantly trying to get Berkeley to enforce the law for them. They lack the staff, the time, and the inclination to enforce in detail; after all, to truly enforce affirmative action on the Berkeley campus one would virtually have to take over the running of the place. The agency cannot do this, and its ultimate weapon - a cutoff in funds - is an extreme, and an imprecise measure (on the order of using a shotgun to kill a flea). And the agency is on unfamiliar ground; universities are confusing organizations to outsiders. Berkeley can delay, resist, rationalize, even go to court. Thus an agency's true power lies in its ability to harass, to try to get Berkeley to enforce the law in a way that the agency cannot. The power to harass can be employed effectively irrespective of the merits of an individual complaint; in fact, one must seize on the opportunity provided by a complaint to use that power. Berkeley's requests that agencies stop harassing is, from the agencies' perspective, a move to strip them of the most useful means at their disposal to carry out their responsibilities.

Finally, the investigation of complaints in the area of discrimination is, more often than not, an exercise in futility that is bound to irritate both parties. A search must be made for evidence of a wrongful attitude, a subjective bias. But almost always the only available evidence is one step removed from this, in the form of official decisions couched in formal language. Thus the agency is driven to peer behind the official rationalization by moving still further back from the decision to look at overall patterns of similar decisions, on the assumption that the hidden bias that operated in a particular case will be more evident when one looks at a broad series of cases. The investigation spreads and the irritation and resistance of the campus grows.

For all of these reasons, the relationship between the campus and the civil rights agencies is bound to be characterized by tension and antagonism. If the end product was mutually satisfactory, or if at least one party was pleased with the results, then it might be worth it. But civil rights groups and agencies are not, on the whole, convinced that minorities and women are making adequate progress. Berkeley is of the view that any progress that occurs is taking place almost in spite of the distracting, ultimately counterproductive forays of the agencies.

The Bakke Case

In running the campus these days it does not hurt to be acquainted with the workings of our peculiar legal system, for its effects on higher education have grown rapidly in the past decade. As others have noted, it is now very difficult to operate without a great deal of high priced legal assistance. As employers, contractors, corporate entities, and sometimes money making enterprises, higher education institutions have always needed legal advice and services, which is not the concern in this report. Today, additional legal assistance is needed because of the rampant growth of regulations, the increasing number of grounds on which an institution is apt to be sued, and the growing role of court cases in shaping the environment within which institutions must operate.

A good example of the last is the impact of the Bakke case on Berkeley during the 1976-77 academic year. The case did not originate at Berkeley, but at another UC campus, and it has still not been settled. Yet its effects on the campus were many, only some of which are recorded in any detail here.

The case itself may be quickly summarized. Allen Bakke was rejected by the UC Davis medical school in 1973 and 1974. The Davis medical school had a policy of admitting no less than sixteen minority students in its entering class of one hundred. As a result, in each year a number of minority students were admitted by Davis with test scores (on the MCAT), undergraduate grades, and rankings on certain other criteria that were below Bakke's. He sued, on grounds that he had been discriminated against on the basis of race and that such discrimination was unconstitutional. The trial court agreed. The University then appealed that decision before the California Supreme Court.

The California Supreme Court ruled in favor of Bakke. It held that the University could not use a racial classification in admissions, of the sort adopted by the Davis Medical School, unless there were no other ways to promote the important goal of increasing minority admissions. The Court concluded that other ways could be found, and thus the Davis program was unconstitutional. The University appealed to the U.S. Supreme Court. The Court has accepted the case, collected briefs from both sides and many interested parties, and will render its decision in the next term.

The California Supreme Court's decision was announced in September, and aroused concern bordering on alarm because it could be interpreted not simply as banning racial quotas in admissions, but as barring any use of ethnicity in selecting from among applicants. A few Berkeley schools and departments had admissions practices, with regard to ethnic minorities, very similar to the one used at the Davis Medical School. Many others were taking race into account in some fashion in keeping with the intent of affirmative action, pressures for which had arisen both outside and on the campus. The federal government had a great deal to do with fostering affirmative action and insisting, through the famous "Berkeley Plan" negotiated with HEW several years before and in other ways, that it be incorporated into Berkeley's personnel, admissions, and academic policies. The affirmative action envisaged clearly derived from the premise that since certain ethnic groups were underrepresented because of past racial discrimination, it was incumbent on Berkeley to use race in an ameliorative way.

Thus the decision appeared to undermine many different admissions practices at Berkeley and, by extension, affirmative action-related policies in other areas of campus life. It was feared that the California Supreme Court had just outlawed certain federally mandated policies. Where did this leave Berkeley, other than in the proverbial "soup"? Many questions were raised and there was widespread concern. Copies of the Court's decision were distributed to deans and other administrative officials, discussions ensued on the possible meaning and implications of the decision in staff meetings and gatherings of high campus officials, and there were numerous contacts with University Hall to see if anybody there had any good ideas. (They didn't.) Staff members spent several days contacting campus departments and offices, compiling lists of current practices that might be affected by Bakke.

The Law School was particularly affected. Since the school had been admitting minority students under arrangements very similar to those at the Davis Medical School, it undertook a quick study of the feasibility of retaining present levels of minority admissions via the alternative routes the Court proposed - more minority recruitment, admitting students by reference to socio-economic disadvantages but not race, etc. It concluded that minority admission would fall sharply. Eventually the Law School designed a larger study in which applicants for 1977-78 were requested to submit racial, socio-economic, and other information about themselves, so that the possible effects on minority admissions of adopting different patterns of selection criteria might be studied. Such studies are not without expense, particularly the more recent one, and have involved a goodly portion of faculty time.

The Law School was affected in other ways. As this was a legal matter, members were besieged with requests for advice and for explanations of the significance of the case. One faculty member and his student assistant played the major role in drafting the petition to the U.S. Supreme Court to review the case and in preparing the University's brief - occupying much of their time for months.

Meanwhile, in January the President appointed a University Task Force to examine the matter of minority admissions to graduate and professional schools in the light of Bakke and the concerns it evoked. The Vice Chancellor of the Berkeley campus was named the Chairman. The affairs of the Task Force have occupied on the order of 20% of his time for the past five months. One of his aides became the staff person for the Task Force, devoting over half of his time to its business during this same period. Expenses of the Task Force borne by the campus have included a large part of the time of two secretaries, the duplication of over 10,000 pages of documents and materials, and the mailing and phone costs of constant communications with the Task Force members from around the state as well as hundreds of letters to interested parties. One member of the Task Force is a student at the Law School, who devoted as much as a quarter of his time to its affairs. Two other Berkeley faculty members also devoted much time and effort, one of whom as the Task Force's primary resource on matters pertaining to standardized tests, a key element in its work and its report.

Students were involved in various ways. Concern over the Bakke decision was expressed in a series of demonstrations. Each demonstration attracted the attention of the campus police, who assigned as many as six officers to monitor each of the events. Sometimes these events culminated in a delegation meeting with the highest officials on campus. Students opposed to the Bakke decision were part of the coalition of student groups that pushed a series of additional demonstrations to the point of a sit-in that resulted in the arrest of thirty six students (and twenty others) - with a correspondingly larger involvement by the campus police.

There were also subtler effects of the decision. Officials engaged in efforts to recruit minority students in the state high schools found themselves spending a good deal of time explaining the decision, pointing out that no change in admissions policies had taken place (in view of the appeal to the U.S. Supreme Court), and dealing with what appeared to be a drop in morale among minority students - a feeling that their chances for admission to Berkeley had been diminished. Both University and campus officials reported a deterioration in relations between the University and minority communities around the state, for the minority organizations questioned the depth of the University's commitment to racial equality in view of the sloppy way (they concluded) it had conducted its case.

In much the same way, the decision helped fuel clashes between the University and elements in the state legislature. A hearing on the *Bakke* case was held in March by a legislative subcommittee and members of the campus participated in efforts to prepare the University's contribution to the hearing and its reaction to the subcommittee's report. The tension between the University and some legislators carried over into other areas of legislative activity pertaining to the University, contributing to the somewhat acrimonious tone in the relationship throughout the Spring.

Finally, the decision helped provoke a reexamination of admissions procedures by some departments. While no major changes have been adopted, the decision was the pretext for reopening some old debates. In addition, the *Bakke* decision was the latest in a long series of challenges to admissions decision which have increased the pressures to rely more heavily on quantitative criteria - test scores and grades - in making selections. Typically a legal challenge to an admission decision results in the department or school being required to demonstrate that it does not discriminate. Quantitative admissions criteria convey an aura of objectivity that supports the department if it is hauled into court. Unfortunately, greater reliance on quantitative criteria at Berkeley, where there is intense competition for admission, would undoubtedly mean a sharp reduction in the numbers of minority students admitted. Thus the *Bakke* decision has subtly contributed to forces working against minority access.

All of this occurred in connection with a case that did not arise at Berkeley, and has yet to be decided! Should *Bakke* be upheld by the

U.S. Supreme Court there will be elaborate efforts to determine the exact meaning of the decision, new policy statements from University Hall with which the campus must comply, and a series of reexaminations of campus admissions procedures. There will also be greater time and resources poured into efforts and programs designed to offset any adverse effects on minority admissions. Even should the University be upheld, a careful review of the decision will be necessary to fix the limits within which the campus must operate, though the effects will not be as great as from an adverse ruling.

The decision is also worrisome because it would undermine the flexibility that all higher education institutions need to deal with a very sensitive and difficult problem. It is next to impossible to decide where to draw the line between adjustments in an institution's traditional standards for admission that are a legitimate contribution to improving opportunities for minorities, and those that unduly compromise what the institution stands for. The great virtue of the present arrangements is that no central authorities have to draw such a line; in the University, each department and college has been free to work out its own arrangements, to experiment, and to adjust to the particular situation in its field. And these decisions have been in the hands of people with long experience in the intricate process of evaluating students. Now a court has proposed to compromise the autonomy of institutions by applying its own views on admissions to restrict the range of choices open to faculties. Every campus would thereby lose some control over one of its most important functions, the selection of students, at the same time that minority access is set back.

In concluding this discussion it might well be to record that the legal costs of such a lawsuit are borne by University Hall on behalf of all the campuses (strictly speaking, on behalf of the Regents). These costs are not included elsewhere in this report but the General Counsel's office estimates they will be $100,000 to $150,000 in extra spending, over and above the time of several of the University's own lawyers.

Affirmative Action Results

Another section of the report discusses some of the financial costs of affirmative action at Berkeley. This section will concentrate on the benefits, on the results in terms of the status of women, minorities, and the handicapped, and on certain other general consequences.

I Statistical Results

The staff affirmative action plan update, sent to HEW, was followed by a summary report to the campus by the Vice Chancellor - Administration. He reported that both women and minorities were being promoted and transferred at higher rates than men and non-minorities, and that they were also participating in greater numbers in employee development programs. The percentage of minority employees was 34%, which is well above the percentage of minorities in the state population.

On the other hand, in 1976

1) women were underutilized in virtually the same job categories as in 1975;
2) Mexican Americans were underutilized in 25 of 26 job categories
3) Blacks were underutilized in 15 job categories; it was 10 in 1975;
4) fewer minorities (27%) are hired at above-minimum starting salary levels than non-minorities (39%);
5) 66% of those dismissed were minorities, though only 34% of the workforce was minorities.

He concluded, "I am disappointed in our lack of significant progress in eliminating underutilization of women and minorities in the majority of our job categories."

On the academic side of the institution 92.4% of the regular faculty were male and 93.4% were non-minority in 1976. The following table summarizes the changes in recent years:

	1970		1976	
	MALE	FEMALE	MALE	FEMALE
Tenured Faculty	96.6%	3.4%	94.6%	5.4%
Non-Tenured Faculty	96.2	3.8	78.1	21.9
Lecturers With Security of Employment	53.8	46.2	50	50
Total Faculty	96.1	3.9	91.3	8.7

	1973		1976	
	MINORITY	NON-MINORITY	MINORITY	NON-MINORITY
Tenured Faculty	5.6	94.4	5.3	94.7
Non-Tenured Faculty	6.9	93.1	14.8	85.2
Lecturers With Security of Employment	5.6	94.4	0	100
Total Faculty	5.8	94.2	6.8	93.2

Of the new appointments to the Berkeley faculty that were effective in 1976, 25% were women and 22% minorities. In the College of Letters and Science, of 35 new appointments as of July 16 were women and 3 were minorities. One other table, on other academic personnel in 1976 will complete the picture:

	MALE	FEMALE	MINORITY	NON-MINORITY
Acting Ladder Rank Teaching Faculty	79.2	20.8	37.5	62.5
Supervisors in Physical Education	61.1	38.9	5.6	94.4
Lecturers	59.8	40.2	16.2	83.8
Temporary Teaching Faculty	69.9	30.1	11.6	88.4
Researchers	74.8	25.2	12.9	87.1
Librarians	36.5	63.5	12.0	88.0

The report rather dryly notes at one point: "The upshot of all of this is that significant improvements in the representation of females and minorities will not be achieved in a short period".

In student enrollments, a report of January 1977 provides the following information (foreign students excluded):

Ethnicity	Fall 1970 Number	Fall 1970 %	Fall 1976 Number	Fall 1976 %
Asian	2,543	9.7	3,873	14.0
Black	1,020	3.9	1,151	4.2
Chicano/Latino	457	2.1	950	3.4
Native American	89	0.3	122	0.4
White	15,813	60.1	19,578	70.8
Other	1,145	4.4	937	3.4
Decline to State	5,169	19.6	1,048	3.8
Total Minority Enrollment	5,254	20.0	7,033	25.4
Total Enrollment	26,326		27,659	

The campus appears in no danger of swiftly changing the color of the student body. On the other hand, counting Acian-Americans, one quarter of the total enrollment is of minority students, a respectable figure.

There are many additional ways in which one might attempt to measure affirmative action achievements, by reference to salaries or financial aid to students or degrees, but employment figures and enrollments are the bottom line. These figures all indicate that changes in the hiring patterns and enrollment patterns of women and minorities have been occurring at Berkeley in the desired direction from an affirmative action viewpoint, but at a very slow rate. In some cases there have been temporary steps backward - in number of job categories in which blacks are underutilized, in female and minority tenured faculty. The changes that have occurred have been uneven. In numerous offices on campus, long time employees report marked changes in the ethnic composition of the staff. At the same time that female and minority tenured faculty were declining (in percentage terms), they were multiplying greatly at the non-tenure level.

Is this sufficient progress? The Committee on the Status of Women and Minorities believes that with respect to the faculty it is not. Minority group organizations around the state and their advocates in the legislature and on the Regents are also critical of the current situation. Others at Berkeley believe that change is occurring at about the rate that might be expected, that the causes of past underrepresentation of women and minorities in various areas of Berkeley are so complex that very large results cannot be expected overnight. They see the changes that have occurred as significant, and as symptomatic of even greater ones that will occur in the next few years. There has been a significant improvement in appointments of women and minorities to non-tenured positions as indicated in the figures. This must also be put in a larger context. Berkeley makes only 70 new appointments annually in a faculty of over 1,400. 82% of that faculty hold tenure. Unless many of its members suddenly find the grass is greener somewhere else, rapid change in the sexual and enthnic character of the faculty is impossible short of firing some of those who are tenured.

II Other Benefits

It is possible to identify a number of other benefits associated with federal regulation in the area of civil rights and the affirmative action activities they have promoted. For example, in the academic sphere one might include the formal ethnic studies programs or the many student-sponsored informal presentations on the background to minority and female concerns. People at all levels have reported that the Title IX self-evaluation, although onerous, was of considerable value. The office of Advisers to Foreign Students and Scholars was able to emphasize in its self-evaluation that 83% of the foreign students at Berkeley are men, and that departments should be sensitive in their admissions to the possibilities of selecting and assisting more women. In the Educational Media office, the self-evaluation uncovered some previously unappreciated problems in staff relations and, by providing an opportunity for complaints to be aired, led to the adoption of remedial measures. There is no doubt that many women on the campus appreciated the opportunity to raise their concerns and express their views.

As noted above, affirmative action efforts have contributed to the hiring of more minority people, to greater numbers of women and minorities involved in training for middle management positions, to more purchasing from minority firms, to a much larger share of new faculty hirings going to women and minorities, to increased opportunities for women in athletics. Various offices report much greater contact with minority communities and organizations now than in the past. The University Affirmative Action office believes that affirmative action efforts have broadened the constituencies of the University and each campus in a significant way.

The Campus Police report a variety of benefits from affirmative action. As a result of these efforts explicit hiring standards have been developed, whereas up until a decade ago campus policemen were hired largely on the basis of personal evaluations by the police chief. Affirmative action pressures have contributed greatly to the creation of explicit standards, refinement of selection criteria, and recruitment from among a broader range of people. As a result the campus police force is now younger and more highly educated, has many more women and minorities, and sets higher standards for promotion. The department has concluded that having minority officers actively involved in hiring provides an entirely new and valuable perspective on applicants.

Affirmative action on the handicapped has already helped ease the barriers to physical access to campus buildings and created opportunities for disabled students and employees that they did not have before. There is no doubt that without the passage of federal legislation and resulting regulation a good deal of this progress would not have occurred. However, the true impact of the regulations will come in the next few years and cannot be further assessed here.

Thus in terms of actual results, the Berkeley campus has changed and is changing, but not in an overwhelming way. And no doubt many of the changes would have occurred without detailed regulations and reporting requirements. The same must be said of the complaint investigations; the great majority of the complaints have led to a finding of no discrimination and while the investigations or the threat of others may have had some effect, a good deal of whatever progress has occurred with respect to women and minorities might well have occurred anyway.

On balance, the federal legislation in this area has been valuable. It is impossible to say the same for the regulations that have come with it. Either progress has been inadequate, as critics charge, and thus the regulations do not get at the heart of the problem, or the progress is adequate because improving the status of disadvantaged is a complex problem not admitting of ready solution, in which case the regulations cannot be having all that great an impact either. Given the current structures of the Berkeley faculty, the high rate of employment of minorities on the staff side, and the ethnic composition of the current student body, the latter view appears to be closest to the truth. Thus it is time for the government to reconsider the policy of pursuing such social change in universities via elaborate regulatory mechanisms and somewhat heavy handed investigation techniques.

This is particularly appropriate not only because of the heavy costs that Berkeley bears as a result, heavy in relation to the beneficial results that are apparent, but because affirmative action operated in this way has had a number of unfortunate side effects as well.

III Side Effects

As is the case with so many government regulations, the applicable ones here are inconsistent. For instance, EEOC has guidelines that are very rigid on how to determine if tests used in selecting employees are valid in assessing future job performance. The Justice Department has a different, less rigid set of guidelines. To which should the campus adhere? The General Counsel's office fears that the University is not fully in compliance with one or the other and might be vulnerable to a lawsuit. Under some regulations the University and the campus must have subcontractors agree to disseminate equal employment opportunity statements in their publications, but other regulations don't include this. Under Executive Order 11246, some requirements apply if a contract is over $50,000 with over 50 employees in the firm, others when the contract is over $10,000; but the Vietnam Veterans Readjustment Act has provisions applying to contracts under $10,000, and 503 regulations apply to single purchases of over $2,000.

Because of this, and because the regulations are often imprecise or unclear, it is frequently necessary to reread and study the regulations almost on a case-by-case basis. It becomes difficult to generalize about the interpretation of regulations and their application in particular instances.

Another result of affirmative action is that in certain respects the student profile of the campus is being altered. More women with families or women whose children have grown and left home are returning to school to finish their education or begin a new career. This is a most important development that Berkeley wishes to encourage. Meaningful equal opportunities for women can hardly exist without it. However, these students can be more expensive than others in several ways. First, there is child care. This year the campus had to announce a cutback in child care services it provides due to lack of funds; the women affected were strongly critical, as were others, and there were some heated meetings. Even so, the total amount of money allotted to the program will rise (from $680,000 to approximately $800,000) and Berkeley is now spending $2,800 per child in its efforts to meet this need. Second, older women (and men) tend to be larger consumers of student health services. Ideally they should have additional counseling available to help in the adjustments of returning to school or in beginning to plan for a new career. Third, women who are returning to school often have a substantial need for financial aid, particularly those with families. There is no obvious source of additional funds to meet these costs, yet they are unavoidable if Berkeley is to meet its responsibilities to these highly valued students.

Another theme in remarks by many on campus about affirmative action is that the regulations force a great deal of attention to procedural details at the expense of meaningful programs to assist minorities, women, and the handicapped. The Vice Chancellor believes that the annual affirmative action report to HEW could be one-third smaller and still do a creditable job. The Chairman of the Committee on the Status of Women and Minorities feels that in hiring, as in other areas, Berkeley is so decentralized that the key to success in affirmative action is the attitudes of the faculty in their respective departments, and the regulations do not really get at that at all. Instead there are more committees, more paperwork, more forms; in addition, much of this burden falls on women and minority faculty (serving on committees, helping in recruitment, etc.) which, she feels, has often detracted from their ability to do the kinds and amount of research to ensure tenure and promotion. She regrets that so much effort goes into procedures instead of programs in faculty and staff development or student aid. Yet, as the campus experience with the job training program for the handicapped indicates,office managers and department heads sometimes feel that programs to help employees broaden their opportunities are all too readily taken as commitments to hire and promote irrespective of what budgets or later evaluations of those employees' performance will allow. Enlarging individuals' options sometimes seems to come at the expense of foreclosing managerial ones.

Another unfortunate aspect of affirmative action concerns the goals and timetables that resulted under Berkeley's agreement with HEW several years ago. In many offices these goals are ridiculed as an excessively quantitative approach, particularly when a department's goals include something as precise as a male filing clerk or a Chicano typist. Nonetheless, numerous departmenst find themselves selecting in just this way; one is now looking for an oriental male budget clerk, another wanted a chicano analyst but had to settle for a black, etc. In the first months after the agreement, the goals helped encourage a situation in which the Personnel Department sent only minority applicants to be interviewed for many openings, regardless of the ethnic composition of the office involved, an illustration of how a quantitative approach can distort the spirit of affirmative action. All of these things contribute to a persistent undertone in comments by many officials on campus that affirmative action means benefits for the less well qualified. They will say things like "we hired several minority people but it was on their qualifications. Affirmative action really had nothing to do with it." Surely this is not the kind of image of affirmative action the government wishes to foster, where it appears to mean race-or-sex handicap-conscious policies that override selection on merit. Yet this is what the emphasis on goals and timetables, statistical reports, or searching for statistical patterns as "evidence" of bias in investigations can promote.

Another result is a steady stream of complaints about the paperwork and the delays. In 1976 one department reported that since 78 applicants applied for one faculty position and had to be included in the paperwork on the eventual selection sent to the Faculty Office of the Assistant on Academic Affirmative Action, it had taken one secretary roughly three days to complete the necessary forms - and the department was recruiting for two more positions! A research unit estimates its staff time on paperwork in hiring for six positions last year (for a new project) at eight hours. A principal investigator reports that it is silly to be able to put a postdoc on a training grant with no affirmative action-related search and advertising required, but that these requirements hold if she puts the same person on her research grant, thereby generating paperwork and delay. Another principal investigator reports that his department hires forty of its students for lab work every summer - it's an important part of their education and faculty-student relations. But the department must go through pro forma compliance with affirmative action requirements - advertising, interviews, paperwork - for what are really not open positions. The same investigator reports that his department recently lost an outstanding woman applicant for a faculty position; after her interview the department was ready to hire her on the spot, but formal compliance with affirmative action requirements meant a three month delay before the job could be offered and in the meantime she received, and accepted an offer elsewhere. Finally, one organized research unit found the requirements produced so much delay in hiring a professional researcher for a project team that the project had already gotten well under way, so the position was cancelled since anyone hired would join the project in the middle and thus require a substantial orientation for which no one could really spare the time.

There is yet another kind of secondary or indirect effect of affirmative action on personnel systems that helps increase delay, time, and paperwork burdens on the campus. However, it is not derived solely from affirmative action concerns and in many cases involves actions having little or nothing to do with racial or sexual aspects of personnel work. This is the phenomenon of increasing complexity in the procedural requirements one must adhere to in disciplining or dismissing an employee. The ultimate source of this complexity is a broad climate of concern for the right of individuals vis-a-vis large organization. However, affirmative action and civil rights pressures have played a large role in building that concern, and one consistent goal of strengthening the individual's defenses has been to better protect him from arbitrary treatment rooted in discriminatory attitudes.

In the past eighteen months the campus has been adjusting to a pointed example of this. In September 1975 the California Supreme Court ruled on what is now known as the Skelly case. Skelly had been dismissed from a state position and, in keeping with state personnel policies, notified of his right to a hearing to challenge the action. He sued on grounds that he should be entitled to a hearing before any disciplinary action. The California court referred to a U.S. Supreme Court decision (Arnett v. Kennedy 416 U.S. 134 1974) in deciding that the state practice was an unconstitutional violation of due process, and concluded that while a full blown hearing wasn't necessary before initiating disciplinary action, some fairly elaborate notification and explanation of what was afoot would be necessary, plus a right to a hearing before the disciplinary action became final.

As a result, the campus has had to revise its procedures. Now it is necessary, before discipline or dismissal, to give the employee written notice of the proposed action, the reasons for or charges and accusations on which the action is based, and the employee's right to respond. And this is before any hearing that may result. Thus it is not only a more complicated procedure but can delay discipline or dismissal for some time. The Personnel Office has been revising the affected staff personnel policies, but the full impact is not clear. There are approximately 20 campus dismissals annually, and these new requirements will affect all supervisors and personnel representatives associated with each. The Personnel Office offers as its best estimate an increase of 300 man-hours annually on campus in complying with the decision.

Turning back to effects directly derived from civil rights measures, people on campus differ on the impact of affirmative action concerns on the nature of job specifications. As noted elsewhere, the Campus Police (and some other departments) have found that the entire hiring process is improved by having to think through, specify, and justify criteria for positions. The Faculty Assistant for Academic Affirmative Action believes that more clearly defined faculty openings allow candidates to assess their chances more realistically. On the other hand, many have noted that affirmative action pressures lead to drawing excessively narrow job descriptions either to eliminate everyone but the person that the office wanted to hire in the first place, or to make the final selection more justifiable if it should be challenged either by campus affirmative action officers or in a complaint lodged with external agencies. Defining job prerequisites very precisely is a poor practice for it leaves little flexibility for taking account of the person of unusual talents or an odd background; it subtly injects an excessive emphasis on "credentials" and prior experience that can work against giving maximum opportunities to those who have been previously disadvantaged. The same pressures work in graduate and professional school admissions to heighten emphasis on quantitative criteria - grades and test scores - which can have a devastating effect on minority admissions given the great competition to enter many of Berkeley's schools. Some of this has occurred at Berkeley in the past few years, and offices and departments have been whipsawed between the press to give more attention to those disadvantaged versus the constant threat of complaints from both previously disadvantaged groups and those alleging "reverse discrimination", complaints that can, as in Allen Bakke's case, end up in court.

It is difficult to assess the overall effect of affirmative action on the quality of Berkeley's employees and students. Concerning faculty, there are no reports of departments feeling forced to pass over their first choice for a candidate they consider less qualified, though a number have indicated that, in the words of one (female) faculty member, "It's a hell of a lot of work to justify choosing a white anglo saxon male". There may well be far more assertions that affirmative action threatens the quality of the faculty, in view of the major tenure case decided personally by the Chancellor in June. As for staff, various managers report that affirmative action has led to employing more "marginal" people in their offices, but none suggest this is a serious problem. They also frequently point out that many good people are uncovered in this way, and they express satisfaction at the better use of available talent and human resources now. As for students, it is clear that affirmative action programs have brought many students to the campus who are marginal. Some of these do quite well but many succeed only with substantial campus assistance, and a number do not in the end manage to stay on to complete their education.

Not surprisingly, affirmative action has affected campus relations with University Hall and the University's priorities. The University Affirmative Action office is a focal point for the complaints by all U.C. campuses that mandated affirmative action efforts carry nothing like the necessary funds attached. (For the last two years, the University has made increased state funding of these efforts one of its two highest priorities, faculty salaries being the other, in seeking augmented monies in the governor's budget.) That office feels there is much more bureaucratization in relations with the campus: everyone is "memoed to death," reporting requirements are way up, there is a constant need to document compliance via paper trails and elaborate chronologies. One example of increased paperwork is the Ethnic Audit List the University now requires from the campus, a quarterly report on the ethnic identity of the members of the campus workforce that the University needs to meet its own reporting requirements.

The Affirmative Action office also believes that some increased centralization has occurred. For instance, the director of the office now intervenes at times in campus personnel matters - asking that a search for a position be extended, suggesting people to contact, pointing out places where little progress is occurring. Centralization also flows from efforts to keep track of the new regulations and the differences among them, as one looks to a single office to reduce duplication, as well as to ensure that nine separate institutions have parallel grievance procedures - lest one be played off against another by the government.

Final Comments

It is not at all clear that Berkeley was ever guilty of systematic discrimination on the basis of race, sex, or handicap, or whether its admissions, employment, salary and promotion patterns largely reflected larger social forces and conditions. Nevertheless it has acquired elaborate responsibilities and faces extensive requirements derived from the fight against discrimination. These have affected almost every area of campus life.

The effects of affirmative action are as subtle as the problem they seek to correct. Unfortunately many of these effects are not beneficial. Often they are unanticipated. Often they reflect inadequate governmental understanding of how higher education really works. Often they are threatening. And they are proliferating.

It costs federal agencies very little to impose additional affirmative action requirements and reports. It is widely believed that many of the reports go unread, that they are simply a process of converting lots of trees from the nation's forests into a form suitable for storage in federal warehouses. The imposed requirements have a certain procrustean quality; the terribly impenetrable problem of discrimination is hacked and stretched to fit into these required solutions the government feels able to adopt. Correcting discrimination comes to be a matter of the proper forms and procedures. Results are assessed not in terms of equal opportunities made available, which is not readily measured, but in the number that end up on this or that output category, which allows for simple counting.

It is worth reconsidering the proper use of federal action to promote major social changes of this sort, a point returned to in the concluding section of this report. It may be that legislation and regulations have primarily an initial shock value, punching holes in hidebound procedures, shifting the intellectual/emotional milieu in which the society operates, and extending legitimacy and legal backing to groups fighting for social change at the local level. But once these forces for change have been set in motion, there is a bureaucratization and proceduralization that can set in if the laws and regulations continue to grow and the federal intrusions multiply.

One contemporary model of governmentally induced social change involves unremitting federal pressure against other institutions and attitudes that persistently and unwittingly resist. Let up on the pressure and progress ceases. It might be better to think of the government helping set in motion forces for change that lead the society to do so on its own. The latter would necessitate less continuing federal intervention, less constant regulation, less intrusive oversight. And it might work better.

APPENDIX TO PART THREE

The following information on the legal requirements behind the collection of data on sex and ethnicity has been issued by the University Administration. It summarizes the various applicable laws and regulations and briefly describes the University's procedures. It is taken from the Report of the Special Committee on Practice and Procedures in Data Collection and Retention, With Particular Reference to Data Bearing on Affirmative Action and Ethnicity, which was circulated in January 1977.

LEGAL REQUIREMENTS

Listed below are the specific federal laws and regulations under which the University was mandated to collect employee data relative to sex and ethnicity to demonstrate our equal employment opportunities and non-discrimination - good faith efforts. Items 1 and 2 are listed as references; items 3 and 4 include the detailed sections of the regulations.

The Specific Legal Requirements on Data Retention

1. Title VII of the Civil Rights Act of 1964
   created the Equal Employment Opportunity Commission; provides for equal employment opportunity regardless of race, religion, color, sex, or national origin.

   Amended by the Equal Employment Opportunity Act of 1972
   strengthened the powers of EEOC; extended the coverage of Title VII to include (among others) educational institutions.

2. Executive Order 11246 (signed by President Johnson in 1965)
   prohibits discrimination in employment on the basis of race, color, religion, and national origin and requires written affirmative action programs of Federal contractors.

   Amended by Executive Order 11375 (1967)
   adds sex as a prohibited basis for discrimination. Enforced by the Office of Federal Contract Compliance (OFCC) of the Department of Labor; the Office of Civil Rights (OCR) of the Department of Health, Education, and Welfare (DHEW) has been designated the enforcement agency for institutions of higher education. Educational institutions with federal contracts of $50,000 or more and 50 or more employees must have written affirmative action programs, as of 1/13/73.

3. Related regulations to implement and monitor the above requirements, Title 41 of the Code of Federal Regulations (CFR) -- Public Contracts and Property Management Chapter 60-2--Affirmative Action Programs, Revised Order No. 4, (April 15, 1974).

   Section 60-2.11 (a) Workforce analysis which is defined as a listing of each job classification ranked from highest to lowest paid within each department or other similar organizational unit -- for each job classification, the total number of male and female incumbents, and the total number of incumbents in each of the following groups must be given: Blacks, Spanish-surnamed Americans, American Indians, and Orientals. The wage range or salary range for each job classification should be given. All job classifications, including all managerial job classifications, must be listed.

   Section 60-2.25 Internal Auditing and Reporting Systems (a) The contractor should monitor records of referrals, placements, transfers, promotions and terminations at all levels to insure non-discriminatory policy is carried out. (b) The contractor should require formal reports from unit managers on a schedule basis as to degree to which unit goals are attained and time tables met.

3. (Continued)

The University's Affirmative Action Personnel Program--Policy and Guidelines were prepared in accordance with Revised Order No. 4.

4. Title 29 of the Code of Federal Regulations (CFR)--Labor Chapter XIV--Equal Employment Opportunity Commission Part 1602--Records and Reports Higher Education Staff Information Report EEO-6 for Public and Private Institutions and Campuses.

The filing of EEO-6 is required by law; it is not voluntary. Under Section 709 (c) of Title VII, EEO-6 was developed to meet most of the basic compliance reporting needs of various Federal government agencies that have responsibility with respect to equal employment opportunity. A joint reporting committee represents the Office for Civil Rights (OCR) of HEW, the Office of Federal Contract Compliance (OFCC) of the Department of Labor, and the Equal Employment Opportunity Commission (EEOC). The legal statues were published in the Federal Register, Vol. 40, No. 114--Thursday, June 12, 1975.

EEOC - Reports and Recordkeeping for Institutions of Higher Education 1602.48 Records to be made or kept.

Commencing August 1, 1975, every institution of higher education, whether public or private, with 15 or more employees, shall make or keep all records and information therefrom, which are or would be necessary for the completion of Higher Education Staff Information Report EEO-6 whether or not it is required to file such a report under Section 1602.50. The instructions for completion of Report EEO-6 are specifically incorporated herein by reference and have the same force and effect as other section of the part. Such records, and the information therefrom, shall be retained at all times for a period of three years at the central administrative office of the institution of higher education at the central administrative office of a separate campus or branch, or at an individual school which is the subject of the records and information, where more convenient. Such records, and the information therefrom, shall be made available if requested by the Commission or its representative under Section 710 of Title VII and 29 U.S.C. 161.

(a) Any personnel or employment record (including but not necessarily limited to application forms submitted by applicants and other records having to do with hiring, promotion, tenure, demotion, transfer, layoff, or termination, rates of pay or other terms of compensation and selection for training) made or kept by an institution of higher education shall be preserved by such institution for a period of two years from the date of making of the personnel action or the record involved, whichever occurs later. In the case of involuntary termination of an employee, the personnel records of the individual terminated shall be kept for a period of two years from the date of termination. Where a charge of discrimination has been filed, or a civil action brought against an institution of higher education, the respondent shall preserve similarly all personnel records relevant to the charge or action until final disposition thereof. The terms "personnel records relevant to the charge," for example, would include personnel or employment records relating to the person claiming to be aggrieved and to all other employees holding positions

CURRENT ADMINISTRATIVE AUTHORITY FOR COLLECTION AND RETENTION OF ETHNIC AND AFFIRMATIVE ACTION DATA

Background

The requirement for reporting annually to the Equal Employment Opportunity Commission (EEOC) on Employee Information Report, EEO-1, by Federal Occupation Code and sex/ethnicity composition of the work force mandated the collection of sex and ethnicity information.

Section 709 (c) of Title VII of the Civil Rights Act of 1964 required that the Equal Employment Opportunity Commission (EEOC) establish regulations pursuant to which employers subject to Title VII make and preserve certain records to aid in the administration and enforcement of Title VII. The EEOC recommended that the sex and ethnicity information for EEO-1 be ascertained by an employer, ". . . by visual surveys of the work force, or at their option, by the maintenance of post-employment records as to the identity of employees where the practice was permitted by State law. In the latter case, however, EEOC recommended the maintenance of a permanent record as to the racial or ethnic identity of an individual for purposes of completing the report form, only where the employer kept such records separately from the employee's basic personnel form . . .".

The University began visual identification of all its employees by sex and ethnicity during the latter part of 1965. Supervisors made the identification for employed persons and all new employees were identified visually at the time the appointment papers were completed. The Master Personnel Payroll files (MPP) were programmed to accept the ethnic codes as of January 3, 1966. To this date, all employee data on sex/ethnicity have been stored on the MPP computer tapes.

The University has not issued any official written policy or guidelines pertaining to access, use and dissemination of ethnic data. A written policy developed by Director Turner of Information Systems, April 26, 1968, stated that any Chancellor or Vice President may receive the information from the MPP files. General Counsel's office has confirmed via various correspondences as early as February 25, 1971, and again on October 5, 1972, " . . . that there was no legal prohibition on providing organized research units of the University such data (sex/ethnicity) as may be obtained after employment".

The Regulations established under Section 709 for EEO-1 state that each employer subject to this title shall make and keep such records relevant to the determinations of whether unlawful employment practices have been or are being committed, preserve such records for such periods, and make such reports therefrom, as the Commission shall prescribe by regulation or order. Each employer in addition to filing the EEO-1 Report shall retain at all times at each reporting unit, or at company or divisional headquarters, a copy of the most recent report filed for each such unit and shall make the same available if requested by an officer, agent or employee of the Commission .

Executive Order 11246, Higher Education Guidelines, December 1972, and as amended, " . . . institutions will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin", and that it "will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to these factors". The requirements of the Executive Order are implemented by the regulations of the Department of Labor (41 Code of Federal Regulation Chapter 60). Part 60-2 contains Revised Order No. 4 and Public Institutions effective January 21, 1974. The Office for Civil Rights (OCR) in the Department of Health, Education, and Welfare, is responsible for the enforcement in institutions of higher education.

On May 7, 1974, the EEOC published the proposed EEO-6 reporting and record - keeping requirements in the Federal Register. On June 12, 1975, the new rule and regulations, effective July 1, 1975, concerning records and reports for Higher Education Staff Information Report, EEO-6, included revisions of ethnic definitions and stipulated the record retention time of 3 years.

Instructions for race/ethnic identification state that an employer may acquire the race/ethnic information necessary for this report either by visual surveys of the workforce, or from post-employment records. Since visual surveys are permitted the fact that race/ethnic identifications are not present on post-employment records is not an excuse for failure to provide the data called for.

Usage of Data

Ethnicity and sex information are extracted from the Master Personnel and Payroll Files to a data file known as the Personnel Information File (PER). The PER file is created quarterly and contain necessary employee information for personnel reporting, statistics, and analysis, including sex/ethnic distribution data. Summary statistical reports (never with names of individuals) are produced to provide statistics for monitoring and developing Affirmative Action Programs, for completing the EEO-1 and now the EEO-6 reporting forms, preparations of reports to The Regents, and the Legislature. For Affirmative Action Programs the Affirmative Action Personnel Reports are produced twice a year, April 30, and October 31. The general format of these summary reports are all similar in that the sex/ethnic distribution is provided for each selected level of summarization. The total workforce is tabulated by sex and ethnicity in the specified level of grouping, e.g. campus-wide by employee type (academic, career staff, and casual staff), by campus departmental units or by Federal Occupation Code, etc.

4. (Continued)

similar to that held or sought by the person claiming to be aggrieved; it would also include application forms or test papers completed by an unsuccessful applicant and by all other candidates for the same position as that for which the person claiming to be aggrieved applied and was rejected.

Rules and Regulations

Race/Ethnic Identification. An employer may acquire the race/ethnic information necessary for this section either by visual surveys of the workforce, or from post-employment records. Since visual surveys are permitted, the fact that race/ethnic identifications are not present on post-employment records is not an excuse for failure to provide the data called for. Moreover, the fact that employees may be located at different addresses does not provide an acceptable reason for failure to comply with the reporting requirement. In such cases, it is recommended that visual surveys be conducted for the employer by persons such as supervisors who are responsible for the work of the employees or to whom the employees report for instructions or otherwise.

Please note that conducting a visual survey and keeping post-employment records of the race or ethnic origin is legal in all jurisdictions and under all Federal and State laws. State laws prohibiting inquiries and recordkeeping as to race, etc., relate only to applicants for jobs, not to employees.

The concept of race as used by the EEOC does not denote clear-cut scientific definitions of anthropological origins. For the purposes of this report, an employee may be included in the group to which he or she appears to belong, identifies with, or is regarded in the community as belonging. However, no person should be counted in more than one race/ethnic category. The five race/ethnic categories are defined as follows:

1. White (not Hispanic origin): All persons having origins in any of the original peoples of Europe, North Africa, the Middle East, or the Indian subcontinent.

2. Black (not of Hispanic origin): All persons having origins in any of the black racial groups.

3. Hispanic: All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

4. Asian or Pacific Islanders: All persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Pacific Islands. This area includes, for example, China, Japan, Korea, the Philippine Islands, and Somoa.

5. American Indian or Alaskan Native: All persons having origins in any of the original people of North America.

The sex/ethnic information is never released with any employee identifying information. For internal staff use in verifying the summary reports, a listing known as the Ethnic Report Audit List (PER 10A) may be produced at the time the summary reports are produced. This report contains one entry for each employee on the Personnel Information File, and is the only report which provides employee identifying information with ethnic information "According to University policy, employee records which contain ethnic identit are not to be circulated". Therefore, in order to obtain this report a request must be submitted in writing with Vice Presidential or Chancellorial approval each time this report is required.

Each quarter when the Personnel Information File (PER) is created from the MPP file, a report on "Invalid Sex, Ethnic and Citizenship Codes" (PER 201) is produced. This report is distributed to campus departments via the campus Affirmative Action Coordinators for correction and return to Systemwide Administration Affirmative Action. The report lists name of employee by unit where employed, the missing or invalid code, with a space provided for entering the correct code. From 1973-1975, the number of employees not identified by sex or ethnicity decreased from 1.1% to 0.2% of the total workfo After the resurvey this spring, the April 30, 1976 Affirmative Action Personne Reports indicated 3.4% of the total workforce were not identified (2,865 of 84,659).

PART FOUR

FINANCIAL AID

It is difficult to document the exact amount of financial aid made available to students on the Berkeley campus for the aid is disbursed in many different forms and from a great variety of sources. Also, the definition of "aid" varies a good deal. A recent assessment of all funds flowing to students produced the figure of $53,266,000 for 1975-76, of which $31 million went to graduate students. However, as the Financial Aid office defines assistance, the total for 1976-77 was $39,535,153 - which reflects the office's narrower definition of aid. Of this latter figure, the Federal government supplied somewhere in the neighborhood of $23 million, counting the employment of graduate students as T.A.s and R.A.s, mostly on money from federal contracts and grants. In direct undergraduate aid programs alone (grants, loans, federally insured loans, and work study), in 1976-77 the Federal government supplied $9.2 million to the Berkeley campus which translated into 9502 aid commitments. That 9.2 million represented 57.5% of such aid on this campus. As of this summer the campus already has $8.5 million dollars in direct undergraduate federal aid funds, with additional monies yet to be announced and committed. Federal student loans alone on the campus assist over 3000 students per year. To get the loan money the University need only make a modest contribution in matching funds.

The following are the major federal student aid programs operated by the Financial Aid Office:

1) National Direct Student Loan Program (NDSL)
2) Supplemental Educational Opportunity Grant Program (SEOG)
3) Basic Educational Opportunity Grant Program (BEOG)
4) College Work Study Program
5) Health Profession Student Loan Program
6) Federally Insured Student Loan Program (FISL)
7) Bureau of Indian Affairs Program
8) Veterans programs

Given the current operations of federal aid programs, the Financial Aid Office faces considerable difficulties in efficiently processing aid funds. The aid process begins when the student submits application forms, usually in December or February. The student offers information on his own resources and his parents anticipated contribution, along with income tax records. The Office then compares the student's total resources with what it believes is an adequate student budget - any difference being the amount of aid for which the student is eligible. The Office then attempts to put together an aid "package"; it tries to estimate the student's chances of receiving a BEOG grant, a fellowship, a state scholarship or other kind of assistance. Then it adds additional funds from various available aid programs administered by the Office. As a result, the student may end up with aid from as many as five or six different funds.

While the government's money is badly needed to support needy students, the way in which it is made available poses any number of difficulties and administrative complexities for both the Office of Financial Aid and the Office of Admissions and Records. Some of them are as follows:

One Year Funding

Many of the difficulties in handling financial aid ultimately derive from the inability to plan very far ahead and manage accordingly, because the funds come in annually. Being a student is a multi-year matter but arrangements for aiding students are not. The government then compounds the problem by not making the annual funds available in a timely fashion - the government does not change its sluggish ways just because it would be helpful to have funding that is compatible with the academic year. Typically notification of allocations comes late in the spring or, in the case of the Health Professions Student Loan Program, in September or October! Thus the Financial Aid Office must settle on its packaging guidelines (by April) well before it knows exactly what it will have available. Adding a finishing touch, the government does not permit any remaining funds at the end of the fiscal year to be carried forward. The result is a bit of a scramble toward the end of the school year to get as much of the remaining money paid out as quickly as possible - hardly consonant with Federal pressures for prudent fund management. The government itself is not above doing the same. Recently, as in other years, additional Federal Work-Study money was made available long after the campus work-study commitments and arrangements had been made. However, Washington wanted that money spent, so it acquiesced in a maneuver by which the University simply reduced its funds in the Work-Study Program by the corresponding amount and added the new Federal money. One campus official as a taxpayer, finds such "fiscal irresponsibility" highly objectionable.

Aid Packaging and Payment

Since the government releases money so late, the Financial Aid office can only estimate its available funds when it first makes commitments. As the funds come in, some of those commitments have to be revised. One particularly irksome fact is that the student must apply for a BEOG but need not do so until after he has started school - in fact he can apply as late as March of the academic year. The Office can only guess as to whether he will get the award and for how much, for the government (not the school) calculates the student's eligibility in terms of need. Some students get their BEOG money for the current year in June! Next, all financial aid turns on estimates, made months ahead of time, of what a student's financial situation will be. Both the student and the Office may be in error here. Or the student may submit incorrect information, not discovered until later. Or his financial situation can change in the course of the school year - he gets a job, he loses a job, etc. Or, with so much paper and so many transactions, mistakes are made.

The point is that it becomes very difficult to put together and sustain highly accurate aid packages for students. Instead, the amounts to which each student is entitled often change during the course of the year. The results are administratively painful. For the January 6, 1977 check run, there were 4,803 changes necessary to issue 6,081 checks - additions to the list, deletions, changes in check amounts. Each change means paperwork, staff time, headaches. Each change means a payment authorization; to write 6000 checks this spring over 17,000 payment authorizations were involved, an average of nearly 3 revisions per student account.

New Federal regulations on student aid programs were proposed in April, to implement portions of the Education Amendments of 1976. Included were provisions requiring that an Institution advance no funds to students until it has determined they are making "satisfactory" academic progress, are not in default on any prior student loans, and do not owe any refunds on previous grants. The campus has been paying students twice a quarter, which the students find convenient. Unfortunately, checking to see that students are still eligible takes well into the quarter or even beyond it, so the campus will surely violate the new regulations unless it alters its procedures. Thus it has been proposed that the campus return to one payment a quarter. This would also pare the burdens of the Accounting Office in trying to keep track of all revisions prior to sending out the checks. This is an example of a significant change proposed in anticipation of regulations, illustrating how they begin to have an effect while still in draft.

Reporting Requirements

Reporting requirements on financial aid are of two sorts. One is reporting to the Federal government, the other is reporting from one part of the campus to another in pursuit of responsibilities imposed by the government. Some of these reports are as follows:

1) Social Security. Once a year the Office of Admissions and Records (OAR) reports the status of students who receive social security payments - about 4000 - to certify that they are in attendance. In addition, Social Security officials often seek additional information about individuals during the year. One odd example: in seeking to confirm a birthdate of an applicant for social security payments (where birth records are missing) the agency sometimes asks for the birthdate the individual supplied in applying to Berkeley many years ago. All such requests and reports take a good deal of one staff person's time in OAR.
2) HEW. Every Fall and Spring quarter, HEW sends a list of students on the Federally Insured Student Loan Program - some 1500 to 1600 (at one time over 6000) - whose status as students it wants confirmed. (The Student Confirmation Report) This spring it took 4 people working half time for 4-5 weeks in OAR to comb through the files, because the relevant files aren't all incorporated in a single data base.

3) Veterans and Dependents. Berkeley must monitor many aspects of the veteran student's record - enrollment, course lists, course load, academic progress, etc. Then once each quarter the campus must certify that the 1800-1900 students or veterans benefits, on the list supplied by the Veterans Administration, are attending and meeting VA requirements. The VA also requests information about individual students during the year. The programs involved include the Veterans Dependents Program and the Disabled Veterans Pension Program.

4) Other Certification - of - Enrollment Reports. Such reports are required on students associated with the Railroad Retirement Program and Civil Service Commission program,(plus various California programs of a similar nature). The same is true of students in programs funded by other state governments and some private agencies. For example, the Bank of America now wants a status report twice a year on approximately 1100 Berkeley students to whom it has lent money for their education - so reports OAR, in a plaintive tone.

5) Fiscal Operation Reports. Yearly reports on each federal program,

6) BEOG Progress Report. Concerning students getting BEOG money. A quarterly report.

7) BEOG Student Validation Roster. An annual report.

8) Health Profession Program. Both a financial status review and a progress report are required annually.

9) Bureau of Indian Affairs. Requires academic progress reports quarterly on students on its assistance programs.

10) Federally Insured Student Loan Program. Reports on enrollments and academic progress of the students involved are sent to the banks that lend the money.

The burden of preparing all such reports is substantial. In the Office of Financial Aid it involves over $20,000 in staff time each year; in OAR it is estimated that $40,000 in staff time is involved - and the workload is often distributed among a number of staff members so that when report requests come in or deadlines near, the disruptions can affect the work patterns of both offices. There are complaints about the pressure and anxieties associated with the reports. These reports are in addition to the work involved in program reviews and audits. The Office of Financial Aid has had three Federal audits in the past two years and a HEW audit is just about to begin. When the auditor arrives to review a particular program the relevant officials suspend their other work so as to supply the necessary data or other information. And a particular program may have to be reviewed at any time; recently the government requested that one person in the office be assigned the responsibility for the regular monitoring to meet these requests.

A good example of the difficulties that can result if the government is insensitive to the institution's position occurred this past year. The Veterans Administration decided that the campus (along with others) had been remiss in failing to promptly notify the agency about changes in the status of various students. At one point it indicated the campus should return some $16,000 (and take steps to get it back from the students). In all, the VA claimed mistakes had been made on 21 cases. Resolving this matter took an enormous amount of time and effort including:

discussion of the matter in the Chancellor's cabinet;
discussion in OAR staff meetings;
research on the 21 cases by staff;
meetings of UC campus veterans affairs coordinators;
meetings of East Bay campus veterans affairs coordinators;
meetings of Northern California campus veterans affairs coordinators;
correspondence and contacts between OAR, University Hall (several offices) and the Chancellor's legal advisor;
a hearing on the matter which the OAR Director and campus veterans affairs coordinator attended.

The veterans coordinator did virtually nothing but deal with this matter for six weeks.

The hearing record provides interesting reading. Some of the cases involved people who had indeed been paid too much but had already repaid the VA or made arrangements to repay. Others involved students who left school but, of course, turned up missing in the records only when course grades came in or enrollment for the next quarter occurred - the VA wanted notice within 30 days of their departure, the campus insisted it was only responsible for notifying within 30 days of when it knew a student had left (or dropped several courses). One student had an alias (Lenin); the campus reported his departure under one name, while the VA had him listed under another. In the end Berkeley paid no money back on any of the cases.

The case illustrates several things. First, the VA had set requirements for notification without understanding how little campus officials know about the actual status of students until the end of a term. Second, Berkeley's administrative procedures with regard to grades and the official granting of degrees are terribly outmoded - grades for one term are not available until 5-6 weeks into the next. Official degrees for June graduates are not ready until well into July. Thus Berkeley is even slower at detecting many shifts in students' status than is typical in other institutions. Third, a considerable amount of time, effort, and anxiety within certain campus units resulted, even though no campus liability emerged. Faulty complaints hurt. Campus officials feel that as many as 90% of the cases about which questions are raised could be solved by a simple preliminary contact between the VA and OAR.

Other Veterans Matters

The campus has complained along with others about the 85-15 rule, the VA attempt to virtually require that attendance be taken, and VA interest in defining what constitutes a legitimate course of study or satisfactory academic progress: (Discomfort with these matters has been so strong at UCLA that it has given serious thought to outright rejection of the rules and the money). There are also all-too-familiar complaints about great variations in the interpretations of the rules offered by VA officials and offices, and the complete lack of experience with or understanding of higher education displayed by VA officials. Another, rather odd, example of federal regulation concerns the practice of allowing veterans to draw their checks in advance of the quarter. Such a practice maximizes opportunities for fraud (and the VA is moving toward abandoning it). The applicable regulations here include the following:

1) checks for such advances cannot be mailed. The veteran must personally sign for his check.
2) the money for such advances must be kept in a safe. Since the veterans section of OAR has no safe the money must be kept in the campus police office. The reasoning behind this rule is not apparent, either at first glance or upon reflection.
3) the money is subject to audit and a record must be kept on each check.
4) Berkeley must sign an agreement that it will not use any check of this sort for any campus activities.

Berkeley's extension program would seem like an excellent place for many veterans to pursue their education, but not as it has turned out. Extension surveryed the regulations, found them prohibitive, and about a year ago stopped accepting veterans and others on VA money. Aside from the loss of good will with veterans, Extension figures it loses $30,000 in revenues because of this. Sometimes one can put a price on what autonomy and self respect cost.

Presenting Consumer Information

Under the new regulations proposed in April, with which Berkeley is moving to comply, the campus must supply a variety of information to any student or applicant who requests it. In practice, this means inserting the information into all published material sent to students and prospective students. The regulations are dictated by the Javits Amendment to the 1976 Education Act Amendments, but follow earlier regulations pertaining to the Guaranteed Student Loan Program issued in 1975. In the words of the regulations, the following must be disseminated:

> A description of all student financial aid programs available to students who enroll at that institution, including the procedures and forms for applying for such aid, the student eligibility requirements, the criteria for selecting recipients ..., and the criteria for determining the amount of a student's award;
>
> A statement of the rights and responsibilities of students receiving financial aid ... (under federal aid programs),
>
> Criteria for continued eligibility for each program ...
>
> Criteria for determining that a student is in good standing and maintaining satisfactory progress ... and the criteria by which a student who has failed to maintain satisfactory progress of good standing may reestablish his eligibility ...
>
> The means by which payment ... will be made to students and the frequency of such payments.
>
> The terms of and expected schedules for repayment of any loan ...
>
> The general conditions and terms applicable to employment provided ... (as financial aid).
>
> The cost of attending the institution ... (in detail).
>
> The refund policy of the institution for the return of unearned tuition and fees ...
>
> The academic program of the institution, including the current degree programs ...; the instructional, laboratory, and other physical facilities ...; and the faculty and other instructional personnel.
>
> Data regarding student retention at the institution, including, for each of three most recent academic years, the number of students who enrolled and were still enrolled at the end of that year or who graduated from the institution; and the percentage that such students represent of the total enrolled.
>
> The number and percentage of students completing the program in which a student is enrolled or expresses interest ...

There are several interesting features of this potentially apalling list. One is that the first item refers to *all* financial aid available, not just federal aid. This is how federal regulations spread wider and wider in their effects. Another is the fact that while a good deal of this information can be found in the Berkeley General Catalog, and the catalog is generally accepted as meeting many of the requirements, not all the information is there. The University has been moving to comply, and it has issued guidelines for campus publication of information on refund policies, the percentage of graduates employed and standard starting salaries. The latter is supplied by citing national figures for graduates at BA, MA, and PhD levels for six major areas ranging from Engineering to the Humanities. It took a good deal of effort to draft the necessary inclusions in campus published materials and it costs something to add the information to catalogs and brochures. Of course the information will have to be periodically updated - at additional cost in University and campus staff time.

A final point is that if the federal government wishes to make trouble at some future date it can simply insist that the existing information being supplied to students is too skimpy. For instance, it could assert that the data on student retention be completely up to date, and broken down by department or field, or the the cost of attending the institution be specified by field. This is the source of the queasy feeling administrators get when confronted with such requirements, as they wonder what might next be asked of them.

The Javits Amendment and the recent implementing regulations also require that the campus inform students of the availability of employees on a full time basis to assist and counsel students on these financial aid matters. In addition, federal student loan regulations require that the loan recipient be given an entrance interview to explain the loan, the student's responsibilities and the repayment procedures. In the past this was not a regulation with which the campus truly complied.

It has provided a detailed list of student responsibilities on the back of a student loan form, with the student signing to attest his understanding of the provisions, and a Federal Truth-In-Lending Statement (on the interest charges and repayment obligations), also for the student's signature. The Loan Records and Collections Office is now proposing to offer the entrance interviews, but claims a significant increase in staff will be necessary to handle this.

Financial Aid and Student Demonstrators

Section 404 of the law on higher education appropriations for the last fiscal year prohibits any of that money going to students involved in "the use of force" or in assisting others to use force or in the seizure of university property. It was a normal year at Berkeley - meaning there were demonstrations, several of which culminated in sit-ins. On June 2 such a sit-in resulted in the arrest of 36 students. Campus officials spent some time trying to ascertain if a peaceful sit-in constituted the use of force or seizure of campus property, in which case it would be mandatory to cut off aid to the students involved. Nothing could have less appeal, both on educational/humanitarian grounds and because such action would invite escalation of the protests. There was relief when it was decided the law did not apply, but the danger remains that this provision could add fuel to a campus conflagration.

For several years the campus has complied with provisions in the 1976 and 1977 aid appropriations bills that bar aid to anyone who participated in violent campus demonstrations as far back as August 1, 1969. It has done so by including a card in the aid award materials that cites the law on this point and requests a reply to the question "Have you ever been denied Federal student aid funds due to sanctions imposed under Federal legislation relating to campus disturbances."

Such provisions are of questionable constitutionality. Similar language devised in 1968 by Congress was declared invalid in 1972 by a Federal district court. However, until a final ruling on the more recent language emerges, the campus has felt compelled to continue asking the student about past involvement in demonstrations even though virtually no student answers "yes" and no one has yet been denied aid on such grounds.

BEOG

Other financial aid programs use a model for computing need supplied by either the College Scholarship Service or the American College Testing Service. For some unknown reason this is not suitable for BEOG officials. Instead, they require a separate application form and need analysis system, developed under contract either by ACTS (this year) or CSS (next year). This simply complicates life for the student and the Financial Aid Office. It also means that it is more difficult to predict just how much aid the student will be found eligible to receive. It also means the campus cannot, as with other aid programs, declare the student eligible - yet Financial Aid must report any discrepancies between the information the student supplied here and that sent to HEW. This can be quite time consuming, involving direct contact with the student, and if a discrepancy is found, in most cases the campus cannot reduce or cancel the award but must leave this to HEW, adding to the delay. And any revisions in a BEOG require that a student resubmit basic information to HEW. Financial Aid must also make sure that the student does not violate the rule that he can have only four years of BEOG aid. These arrangements seem well calculated to produce delay, confusion, and the harassment of Financial Aid personnel. The Office estimates the cost of these matters at $15,000 per year in administrative expenses.

SEOG

Troubles with SEOG begin with the requirement that the family's probable contribution to the student's expenses be calculated. Many of the applicants have long been independent - both they and their parents may resent being treated as if this was not the case. There are further complications when the student is alienated from his parents or the parents are divorced.

Next, no more than half of a student's total financial aid may come via SEOG. This regulation complicates matters for the aid packagers because certain kinds of aid, under other regulations, cannot be matched with SEOG in a student's aid package. The need for this is unclear.

may receive during his undergraduate education, and of $1,500 on the amount he can obtain in any one year. Thus the Financial Aid office must keep track of this, which would not be so difficult if the limits did not apply to all SEOG aid received at any institution. Alas it does, and so the office collects a financial aid transcript for each prior institution attended from each student involved. It does this without any great confidence in the accuracy of those transcripts and with little understanding of why the $4,000 limit is necessary, since it is not a loan program and thus the student is not piling up repayment obligations.

The Financial Aid Office estimates its SEOG related administrative costs at $7,000.

Health Professions Student Loan Program

The federal guidelines for these awards have been considerably altered within the past two years. As already noted, it is common for actual federal allocations to arrive after the school year has begun. This makes for difficulty in accurately predicting what a student will receive and undermines efforts to devise relatively consistent funding from year to year for the students involved.

The Financial Operations Report on this program requires the Financial Aid Office to supply information about the race, sex, and parental income of the recipients. But other federal regulations appear to inhibit gathering race and sex information on the application forms. So the information must be gathered from other campus offices, such as the Office of Admissions and Records, thereby spreading the burdens further. Financial Aids finds the present pattern of requirements here a bit unreasonable. It estimates its costs to be at least $1,000 on this.

Federally Insured Student Loans

Regulations on this program involve the campus in heavy record keeping activities, monitoring the student's admission, continued academic progress, courses taken, and eventual placement after graduation, with periodic reports to the banks involved. All this comes after Office involvement in assessing the student's financial need and processing the paperwork the student takes to the bank to get the money. The Office of Education requires the processing of three separate forms, even though it's not OE's money. Financial Aid has moved toward a system of trying to keep track of students some 5 years after graduation to be able to report on eventual student placement.

Financial Aid's estimate of costs: $16,000.

The Work Study Program

The responsibilities of the institution under this program are extensive. First, the Office must continually review the job descriptions submitted by potential employers to ensure that the work is suitable, there is no discrimination, etc. After a contract with the employer has been signed and the students hired, the Office must regularly check on

1) whether the students are doing what is specified in the contracts. (This often means on-site visits to the jobs.)
2) whether the salaries are appropriate.

This gets the Financial Aid Office into work for which it is not particularly qualified and certainly is not fully staffed to perform.

There are federal sensitivities to be avoided. In 1975-76, some students were employed by a migrant farm workers organization and seemed to be associated with union organizing efforts. The government held this to be political activity, and jobs of this nature are ineligible under Work Study.

Also, the Program assumes a student will save 80% of his summer work study earnings if living at home, and 60% if away from home. The Office regards these figures as unrealistic.

Financial Aid's estimated costs: $37,000.

The National Direct Student Loan Program

Under applicable regulations, the money in this program must go directly to the student. This means the institution pays students money so they can immediately turn around and pay their registration fees.

At some other institutions fees are deducted first, but the University's legal interpretation is that this shouldn't be done. Obviously, it would be much easier to subtract the fees before disbursing the loan money. Perhaps that's why it isn't permitted.

Also, the campus must see to it that the undergraduate accumulates no more than $5,000, and the graduate student no more than $10,000, in such loans. This is quite likely a wise provision, particularly in view of loan repayment problems discussed below.

Other Federal Aid Program Features

There are several additional elements not yet mentioned or discussed. Section 498 of the Higher Education Act requires that each aid recipient submit a notarized affidavit swearing that he will use the money for his education. Students being students, a good many of them neglect to turn these in, so the Financial Aids Staff must check each application for the affidavit, hold up authorizing aid when it isn't there, contact the student to explain, and bear the related expenses including additional mailing costs. Since those who seek to steal the money would presumably submit the affidavit, while it isn't needed for those sincerely intending to go to school, there seems no great benefit derived.

Another feature of the Financial Aid Office's work is "account reconciliation." Each student on aid has a schedule of payments he is to receive. As indicated earlier, it is quite common for these payments to come from a variety of aid programs. Federal regulations stipulate that all the accounts will be checked to ensure that proper amounts are being paid out and any mistakes corrected, such account reconciling to be done "on a timely basis." Time and resource limitations make it virtually impossible to fulfil this obligation promptly. Attempts are made to correct mistakes and reconcile accounts, but on nothing like the scale necessary to satisfy an auditor,and the accounts are not finally reconciled until the summer (after it's too late to correct some of the mistakes). To do so more and do it more effectively would mean more staff.

Then there are increasing space problems due to Federal requirements mandating that the campus retain records in some programs for five years. This steady accumulation of paper has forced division of the records involved among separate buildings, adding additional inconvenience for the staff.

Loan Disbursements and Collections

To actually get his federal loan money the student goes to the Loan Records and Collections Office. Having given out the money, that office is also responsible for trying to get a good deal of it back. Responsibility for loan collection is shared by this office and University Hall. Neither the government nor the institution is particularly happy about how loan collection turns out.

As already noted, there are various ways in which the student receives information about loans, payments, and his responsibilities for repayment. Much of this is the work of Loan Records. During the period the student is in school, this office must deal with numerous other offices on campus in order to keep accurate records and disburse monies properly, and the frequent changes in federal regulations, which disrupt existing arrangements, are both frustrating and time consuming.

Once the student is about to graduate, or to leave for other reasons, he receives notice of the HEW requirement that he present himself to Loan Records for an exit interview. Here he is informed as to how much he owes and must repay, the repayment schedule, and the method of billing that will be used. Conveying all the relevant information requires preparation of a fairly elaborate set of forms, several of which the student signs after adding additional personal information. Thus the exit interview is a major matter in terms of staff time. Simply trying to notify a student that he must come in can be a problem - some students drop out, and it is not uncommon for students to move three times a year.

Once he has departed, University Hall's Central Student Loan Accounts handles the standard billing and collection procedures. Except that the repayments are not quite standard! As of June 30, 1976 the

Berkeley campus figures were as follows:

Number of Loans Outstanding:	27,957
Delinquent Loans:	11,240
Delinquency Rate:	24% (in dollars)
Litigation and Collection Costs:	$177,315
Amount Delinquent	2,690,441

As of March 31, 1977 in National Defense and National Direct Student Loans alone, Berkeley had $15.3 million outstanding on 22,161 loans. The Central Student Loan Accounts office spends 25% of its time and effort on Berkeley accounts. This comes to $275,000 spent on Berkeley's behalf.

CSLA relieves the campus of a conserable burden, but it is soon going to move responsibility for pursuing delinquent accounts back to the campus. This is an ominous move in terms of campus finances, for the government has been pressing much harder for attention to repayment and to reducing delinquency rates. It has even mandated (or permitted) the use of outside collection agencies in the effort.

Further Comments

There are a number of general comments to make about federal regulations pertaining to financial aid. One is that the above is by no means a complete account, for it ignores much of the federal financial aid that flows to graduate students. Aspects of these aid efforts are discussed under the heading of research in this report.

A second point to make is that in financial aid matters this appears to have been a relatively typical year, including the fight with the VA. One major effort of last year and not repeated was the Title IX self-evaluation on financial aid, which took a very considerable effort for it meant such things as a statistical evaluation of the entire financial aid effort with possible sex discrimination in mind.

Next, the applicable federal regulations in recent years have expanded considerably, due to two sorts of "scandals". One is the proliferation of proprietary schools, offering courses for a profit, some of which have been fraudulent in nature, and the parallel proliferation of extension courses from regular educational institutions - often offered hundreds, even thousands, of miles from the main campus. A fundamental failure here is in the accrediting or licensing arrangements for proprietaries.. Generally speaking it is entirely too easy to go into the "business" of education and, with very large sums of federal aid to students available, this has fostered the emergence of some rather unlikely "educators".

The proper solution to this part of the problem is part of the problem. A frontal attack on such schools means government intervention in the accrediting process, which colleges and universities suggest would be an intolerable invasion of their autonomy. But to have higher education tightly police accreditation raises other problems. Institutions, and faculty, are not at all comfortable sitting in life-or-death judgment over other institutions - after all that violates all of academia's norms on decentralization and institutional autonomy. And it raises the possibility, at least, of traditional institutions squelching their competition. The Federal Trade Commission has been harassing the American Bar Association in recent years on just this, claiming that ABA refusal to accredit proprietary law schools is an unwarranted restraint of trade in pursuit of the traditional law school's self interests. The Extension office is particularly upset by the government's slow but steady encroachment on accreditation - the Office of Education now accredits the regional accrediting bodies. The Dean of Extension fears the professional associations, of accountants for example, will soon apply the necessary political muscle to get themselves accredited to offer extension courses. He likes neither the prospective financial impact on the institution of this additional competition, nor the probable quality of such courses.

As for the long distance extension arrangements, they have flourished with the coming of hard times, the demographic downturn in college age students, and the pressures for more adult education. Lots of these arrangements are good, creative, necessary. Other extension programs are none of the above. The problem is that there is no ready way to sort them out. Even highly reputable schools have been known to play a loose hand in the extension game. There is no standard mechanism for evaluating such programs, except for some state governments' efforts to ban programs mounted from out of state.

Lacking reliable accrediting and evaluation mechanisms, the Congress picked up another stick instead. It has added consumer information requirements to give students a better chance of detecting frauds. Since veterans have been particularly vulnerable, the VA has decided to set its own standards of educational reliability with respect to institutions and courses, displaying a courage of its convictions that can come only from ignorance about how higher education works. This is a roundabout way of getting at the problem and has a variety of unintended consequences with which Berkeley now finds itself living. Institutions not at fault in any way, bear a good deal of the additional work and expense. There are unnecessary intrusions, some so irritating that institutions have fought back in the courts - as the VA has ruefully experienced.

The other great scandal has come in loan delinquencies, and the sums involved are considerable, as the Berkeley figures make clear. Many ex-students have simply declared bankruptcy in order to relieve themselves of these debts, others have moved and failed to notify institutions, still others have ignored repayment. All too many students drop out of school with some of their loan money in hand. As we have seen, Berkeley now faces substantial reporting requirements, frequent audits, and pressure to do better on collections. The trouble with this is that any university is not in a particularly good position to collect on the loans made to its students, yet it is saddled with the responsibility.

Universities are poor collectors in the first instance because, unlike other lenders (with the possible exception of used car dealers) they are in the business of lending money to bad credit risks. And they lend money to an unstable, highly transient, set of people. They lend money to people who are often not obligated to begin repayment until several years after they have left the institution. (A freshman on a Health Profession loan who continues on into professional training after graduation can extend a deferment on repayments for years.) The loans have lengthy periods of repayment, so that an excellent chance exists that the institution will lose contact with the former student. Finally, universities are not in the business of making money by lending it, and they are not overly sympathetic to the idea that students should have to borrow for their education. The institution's only real incentive to collect old loans is that the money goes into the pot for new ones. Thus loan collection is never apt to have any high priority in allocation of the institution's time and resources, particularly since a heavy handed collection effort cannot assist in building alumni relations. The whole idea of using educational institutions as collection agencies needs reexamination.

A report submitted by the Financial Aid Office refers to the "regulation mindedness" of the government in recent years, stemming from reactions to these scandals, and points out that the attendant frustrations, red tape, and expense exceed the amounts the government allows to cover administrative expenses in federal aid programs. Financial Aid reports that it is difficult to retain good people in this atmosphere and, most important, that there is increasing bureaucratization in an area where personal contact and sensitivity in dealing with students is vital. The Office fears that it will soon be serving the regulations more than the students.

The Office of Financial Aid estimates that 51% of its administrative budget is bound up in federal regulations and requirements associated with these aid programs - a total this year of $478,625. The

Loan Records and Collections office believes that about 60% of its administrative budget is traceable to the federal government, which is $103,114. No one would suggest that these figures are either very accurate or entirely an unjustified burden in view of the value of federal student aid. In addition, part of the cost is covered by overhead money supplied by Washington, a total of 4% on SEOG, NDFL, and Work Study awards, and by a similar overhead payment in connection with veterans programs. (Curiously, BEOG and FISL are not included.) However, the costs are a reasonable reflection of the level of effort required, and each office believes that a significant portion of the expenses is not profitable - possibly as much as half in each case.

PART FIVE

FOREIGNERS

Berkeley attracts a great many foreign students, invites foreign scholars to appear as visiting professors or to deliver lectures, and not infrequently seeks to hire a foreign scholar as a permanent faculty member. The campus has long been active in attempting to enrich its educational and research activities in this way. It maintains a large International House, is one of the nation's leading institutions in the education of foreign graduate students and postdocs, and has a steady stream of distinguished foreign visitors. Berkeley now has roughly 1600 Foreign students and 800 foreign researchers and faculty members.

Unfortunately, this means venturing out into a veritable swamp of government regulation. On dealings with foreigners the campus is in regular contact with elements of the Immigration and Naturalization Service, the State Department, the Internal Revenue Service, the Social Security Administration, H.E.W., and the Department of Labor. Immigration and Naturalization is involved because of its responsibility for controlling the influx of foreigners into the country and monitoring the activities of aliens while they are here. The State Department is concerned with issuing visas, and it finances some foreign visitors under various programs. The I.R.S. and Social Security become involved when an alien earns money; for instance, taxes on such earnings are governed either by U.S. law or by 44 separate tax treaties that have been negotiated with foreign governments. H.E.W. is occasionally involved because it has a number of programs in international education. The Department of Labor must issue labor certifications to aliens before they can be employed.

The most recent edition of the Adviser's Manual of Federal Regulations Affecting Foreign Students and Scholars (1975) contains 58 pages of densely packed advice on dealing with the Federal government, a list of 66 "immigration forms most often used", and 19 pages of sample forms. It also cautions foreign student advisers that the regulations change frequently, that the local I.N.S. office has considerable discretion, that rulings by local offices display a lack of consistency, and that "advisers should be mindful of their own limitations when working with complicated legal matters."

Certain general comments by way of background may help put the regulations in context. The thrust of the Immigration and Naturalization Act, other relevant legislation, and implementing regulations is to strictly control the flow of foreigners into the United States. The underlying idea is that too many people wish to move to the United States, that too many of those who visit will wish to stay, and that an uncontrolled influx of foreigners can damage the employment opportunities and undermine the wages paid to Americans. No provision is made for treating foreign students or visiting scholars any differently from other aliens. Thus the law assumes that every applicant for a visa or for entry is intending to be an immigrant to this country. It is up to the applicant to demonstrate that he has no such intent and is therefore entitled to non-immigrant status and an appropriate visa. This includes adequately demonstrating that he has a home to which he intends to return.

The intent of the law is reinforced by the illegal alien problem - once again, certain onerous requirements have been imposed on everyone because of difficulty in dealing with a particular problem. The government has also been under consistent pressure from other governments for many years to do what it can to discourage the "brain drain", the flow of scientific, technical, professional, and academic talent from other countries (where such people are often in desperately short supply) to this one.

However, the Congress has been unwilling to fund the agencies involved, particularly I.N.S., on anything like the scale necessary. As a result, I.N.S. and some other agencies have inadequate staffs and outmoded administrative procedures, including much manual shuffling of paper and poor filing systems. For the campus, this has several consequences. Dealing with the government inevitably means a good deal of delay, running afoul of inter-agency disagreements, and living with a certain degree of frustration. It also means that enforcement, since it cannot be thorough and complete, has a tendency to be irregular and arbitrary. This is compounded by the delegation of considerable discretion to local offices in I.N.S, and by the fact that under the law State Department consulor officials in embassies have the final word on issuing visas (there is no appeal, other than in cases of procedural errors). Thus regulations are strictly enforced in some cases, but not in others. Seemingly similar cases may be treated differently.

Yet another consequence is that I.N.S. has tried, over the years, to get the campus (and other institutions) to enforce the regulations in its behalf. Institutional resistance to this has been severe and in fact the Advisers Manual states that

> It is ... clearly not the responsibility of the foreign student adviser to enforce the laws and regulations or to make reports to government agencies which go beyond the reporting requirements specified for each class of non-immigrant.

However, the inadequate resources of I.N.S. have left it unable or unwilling to respond promptly in all cases to aliens' requests for information and counseling. Of course, it is not exactly in the business of encouraging and facilitating foreign students and visitors, but rather engaged in alien control, so its sympathies would not be engaged in any case. By default, then, the campus foreign student advisers have become, in important respects, administrators of the law. They provide the counseling, offer advice and instruction, see to the availability of forms, check on whether they have been filled out properly,and constantly seek to inform themselves about changes in the regulations.

What results is an anomolous situation in which regulations designed to control foreigners are, in many respects, administered by an office on campus with a very strong interest in facilitating visits by foreigners. A certain degree of tension is thus built into the relationship between the government, particularly I.N.S., and the foreign student advisers' office, a relationship in which the government appears to play the role of setting up barriers and practicing harassment while the advisers do some of the government's work for it and try to get around it. This is overdrawn a bit (but only a bit) to make the point that this is a peculiar way to implement public policy, one more way in which policies designed with the larger society in mind are not readily adopted to the unusual circumstances pertaining to higher education. The campus foreign student office believes that I.N.S. should concentrate its limited resources on those areas where there are real problems with aliens and, in effect, let the campus alone to manage the flow of students and other foreign visitors who are in many ways an asset rather than a serious problem.

Students

There are currently 37 (!) different classes of non-immigrants as defined by the government, each with its particular visa symbol and rules. Perhaps 13 of these are ones with which the campus must be familiar. The most common for students is the F-1 visa. To be able to enroll foreign students with F-1 status a school must have I.N.S. approval. With this approval, the school may then issue an I-20 Form to a student accepted for attendance, and this permits the applicant to obtain his F-1 visa. In order to issue I-20 forms, a school is supposed to determine that the alien has the appropriate academic background, sufficient proficiency in English, and the necessary financial resources.

However, the regulations and required documentation are elaborate and burdensome to a school like Berkeley. The reason is that some 6000 "schools" in this country are permitted to issue I-20 Forms, including many that are unaccredited and many that are proprietary in nature (certain schools in barbering, for example, have permission). A number of such schools have no particular interest in the alien's academic background or financial resources, beyond an ability to pay the fees; they issue the forms as a matter of financial survival or to increase their profits. The abuses here are at best contained by the regulations; efforts to have I.N.S. withdraw permission to issue the forms from such schools have thus far been blocked in Congress. Without such abuse, the regulations for schools like Berkeley might be far less cumbersome.

At Berkeley, at least three offices are involved with I-20 and related forms. The Office of Admissions and Records and the Extension Office issue the I-20 to regularly admitted students (which covers their families), while the foreign student office handles those for certain other students. O.A.R. also issues the I-538 Form which must be submitted by the student whenever he seeks I.N.S. approval for off-campus employment (with the campus certifying that this is necessary), when he wishes to engage in practical training, when he wishes to extend his stay, or when he wishes to transfer to another institution. I-538 must also be submitted by the student every year to continue his stay, with the school joining in justifying the continuation, which entitles him to receive Form I-94 indicating his passport is valid. The foreign student office finds annual renewal irksome when students are admitted to academic programs of four or more years in length - why not issue students a visa good for the duration of their educational program, leaving it to the institution to determine when that program is completed? The obvious answer is that the fly-by-night schools would abuse this arrangment.

When the student fails to keep up his academic program or finishes it, or fails to register for some other reason, the school must report this to I.N.S., using Form I 20 B. As the student prepares to depart he must obtain a sailing permit from the I.R.S. if he has earned any taxable income. If the student is merely visiting his home or another country, he will need to have his visa revalidated. In the past, a student could do this by securing revalidation before he left, but this service has been cancelled by the State Department for budgetary reasons. Now he must get the visa revalidated by a U.S. consul abroad, which means he must have another I-20 form supplied by the school. Revalidation is automatic if he is leaving for no more than thirty days, but woe betide him if he is staying away longer and falls into the hands of certain consuls. One consul has decided that too many students from that country are simply trying to move to the U.S. and has refused to issue visas to some students Berkeley has already accepted and offered financial aid. The same consul has also refused for six months to revalidate the visa of a Berkeley graduate student who is three years into his program and made the mistake of going home for a visit. The pleas of his department and the foreign student office have been to no avail.

There are numerous other complications raised by the existence of exceptions to some of these rules and by differing interpretations offered by I.N.S. offices. Also, the Office of Admissions and Records must yearly compile a report on the numbers and types of visas for foreign students at Berkeley. O.A.R. finds it salt in their wounds that I.N.S. has taken to selling the campus I-20 and other forms at 5¢ apiece!

A student may also obtain a J-Visa, which is used in exchange programs. The campus may be involved here as the "reputable U.S. agency or organization" which is serving as the sponsor. J-Visas are also used for visiting professors, visiting research scholars, various international visitors, and those coming for clinical training. For the campus to bring any such people it must issue Form DSP-66 put out by the State Department. This is a four page form that must be carefully filled out, and since a good deal of information is required on the potential visitor it can be necessary to contact that person for additional data. The campus must also take cognizance of the regulation which limits eligibility for a J-Visa, for aliens who have been in the U.S. before, to those who have resided in their homelands for at least two years since their departure. The campus may authorize employment for J-Visa visitors on fellowships, on a part time basis, during vacations, or for certain kinds of practical training. The campus joins the visitor in filling out another Form DSP-66 to secure an extension of his stay.

Complications arise in many ways. One is that J-Visa visitors do not have a single authorized length of stay. Professors and research specialists can stay three years, international visitors only one. Professional trainees in medicine can stay five years, nurses two. Should a visitor return home for a visit and lose his DSP-66 form, the institution must reissue it. There are exceptions or waivers to various rules. There are reporting requirements when the visitor completes his program or stays beyond the time allotted. And a J-1 visa holder is treated differently from his dependants (J-2 visa holders) on certain tax matters. J-1 visa holders pay federal and state income taxes but no social security taxes. J-2 visa holders pay all three, a fact the foreign student advisor must keep track of.

Visitors for Business

The B-1 visa alien is one who is "of distinguished merit and ability seeking to enter the United States temporarily with the idea of performing temporary services of an exceptional nature ... but having no contract or other prearranged employment". This is the status of many highly distinguished visitors to the campus.

Trouble arises if they are asked to deliver a lecture or two. The regulations forbid payment to them of any money other than to cover their expenses, even a modest honorarium. Academic decorum requires that they by paid something. A problem of this sort arises about once a week at Berkeley. One possible solution would be to get the visitor's visa changed to one that permits accepting such a fee, but the government is simply too slow on such matters to make this a feasible option for most visitors. The campus has explained the problem to I.N.S., and officials there are sympathetic, saying that they don't regard honoraria of this sort as serious violation and won't pursue a campus violation of the rule. But I.N.S. fears to ask Congress to amend the law, lest other aliens abuse the privilege by seeking short term employment while they are here. Thus I.N.S. and Berkeley are in collusion to violate the law in some of these instances. The campus would prefer that the practice have a more legitimate standing.

Immigrant and Permanent Resident Status

When the campus seeks to hire a faculty member or permanent researcher from abroad who wishes to immigrate, the person in question comes under an entirely different set of regulations from those discussed above. In addition, the vagaries of Congress have decreed a different immigration system for those coming from the Western Hemisphere than for those from elsewhere, which adds to the complications involved. For instance, immigrants from the Western Hemisphere face an overall limit of 120,000 per year, but no limit by country; those from elsewhere face a 170,000 annual limit, a limit of 20,000 per year from any particular country, and an elaborate set of 7 preference categories among which the 170,000 are divided. A Western Hemisphere alien is ineligible to apply for immigrant status to Washington, but must go through a U.S. consulate somewhere (usually his home country);if he is already in this country he may have to leave until granted immigrant status, depending on how stringent the I.N.S. office wants to be. Other aliens, however, are eligible to apply for immigrant status while in the U.S. All this and more must the campus know and live with.

Many immigrants, and permanent residents, are subject to labor certification requirements (there are, of course,various exceptions). These certifications have been required since 1965 under section 212 (a) (14) of the Immigration and Nationality Act; in 1972-73 the applicable regulations were tightened and the procedures involved made more complex, and in January of this year new regulations were issued. The Department of Labor issues certifications as part of an effort to prevent the entry of foreigners who will take jobs from Americans or depress American wages. For Berkeley, the process involved is very time consuming and detailed.

The regulations have some quite confusing elements built in. The Labor Department has listed a group of occupations under Schedule A as ones where there are an insufficient number of qualified Americans, including "college and university teachers of exceptional ability". It has listed a much longer set of occupations in Schedule B for which it finds there are plenty of qualified Americans, and these are all occupations in industry or services. This suggests that a labor certification would be virtually impossible to come by under Schedule B, but that for college teachers only Schedule A is relevant anyway. But then the regulations go on to prescribe very elaborate procedures for obtaining labor certification for a Schedule B occupation, and one of those specifically listed in the instructions is "college or university teacher ." Thus this is doubly confusing.

To apply for a labor certification under Schedule A, an alien must provide a variety of documentation as to his exceptional ability, "wide-spread acclaim and international recognition," and specialized training or experience. He must also show that his work during the past year did "require exceptional ability" and that his intended work in the U.S. will also. What this means is entirely unclear. The information is sent either to a U.S. consul or an I.N.S. office so presumably it means what those worthies say. The decision of I.N.S. or the State Department is final.

However, it is apparently much more common for application to be filed under Schedule B, in which the burden on the campus is much greater. The process begins when Berkeley files an Application for Alien Employment Certification form with the State Employment Development Department. On this form or attached to it must be:

1) a statement of the alien's qualifications "signed by the alien."
2) a description of the job offer.
3) "If the application involves a job offer as a college or university teacher or an alien represented to be of exceptional ability in the performing arts, documentation that the employer selected the alien pursuant to a competitive recruitment and selection process through which the alien was found to be more qualified than any of the U.S. workers who applied for the job." [Emphasis is not in the original]

   If there are two applicants of equal qualifications, Berkeley must take the American. This position represents an easing of the earlier requirement that in such positions an institution had to document that no American with "sufficient" qualifications for the position was available.
4) documentation of the exceptional ability of anyone in the performing arts.
5) evidence the alien has been recruited at the prevailing wage.
6) assurance the job entails no unlawful discrimination.
7) evidence the campus has advertised the job, is still looking, but has had no success.
8) assurance that the "requirements for the job opportunity ... represent the employer's actual minimum requirements..."

Etc.

The State employment service office is then supposed to "attempt to recruit" U.S. workers for the job for another 30 days, as is the campus. Then the papers go to the regional Department of Labor office, from which the labor certification is issued. As the State office knows very little about professors in Bacteriology or romance languages or about the Labor Department's rules, additional delays often result.

The foreign student office finds all of this ridiculous. The regulations were obviously written with occupations very different from faculty positions at Berkeley in mind. As at any major institution, the faculty selection process is very stringent. A job opening is not filled with certain "minimum requirements" in mind, but by looking for the best. Yet the Foreign Student Adviser's Manual advises the institution to describe the position and the alien's exceptional abilities in lavish detail. The foreign student office is especially concerned about the delay involved, fearing that good people may be lost. As the Manual indicates:

> It is highly unlikely that the entire procedure ... could be completed for an alien still abroad in less than six months. U.S. colleges and universities may ... find ... difficulties when they have offered a permanent faculty position to an alien abroad whom they wish to have present on their campus with a few months.

Concluding Comments

The foreign student office estimates that it spends 20% of its budget, $30,000, helping people comply with federal regulations, including as much as one-third of the time spent by the foreign student advisers. The office feels that this has forced it to forego a number of desireable projects, such as a careful study of the impact of foreign student programs on campus life. The staff simply lacks the time. Even more disturbing is the time lost for dealing with educational and counseling matters. And the regulations constantly result in emergencies and crises, in which regular or scheduled work must be displaced to try to get student A back in the country or keep Student B from being deported, etc.

The regulations distort the relationship between the foreign student office and the students, for it is the office that administers many of the provisions or reminds the student of the others, and thus the office must bear the brunt of student frustrations, anxieties, and hostilities. This is particularly a problem because regulations and bureaucratic hassles mean different things to people from different cultures. In some countries, such as those with communist governments, every little regulation is taken very seriously and treated rigidly. Students from these countries are apt to see the U.S. regulations in the same light and may need constant reassurance that the deadlines are not absolute, exceptions can be made, enforcement is flexible, and so on. This is reinforced by the "border patrol" mentality of I.N.S., which is often quite cold and unsympathetic toward foreign student requests. Students from other cultures may have the opposite difficulty, expecting that picky bureaucratic details can be "fixed" by the influential foreign student office.

The time, costs, and these effects on good relationships with students all eat into the ability of foreign student advisers to provide sympathetic advice and counseling to students who badly need it. On the day of the interview with the project consultant, the head of the office had spent almost an hour trying to assist an Irani student who wished to transfer from Berkeley to a California state college but was getting no sympathy or help from I.N.S. During the interview he had to offer advice to a caller on how to arrange to pay a B-1 status visiting scholar. These activities (plus the interview) were taking place on the first day of summer registration for foreign students, when it is very important that advisers be able to devote time to counseling.

During the interview he noted that a great deal of the regulation on higher education these days simply neglects to indicate whether it applies to foreign students - who now constitute 3% of the U.S. student population - which means more calls and letters. For instance, when the Buckley Amendment regulations appeared the office contacted H.E.W. because the provisions of the Internal Revenue Act of 1954 both

1) determine whether a student is to be considered financially dependent on his parents - in which case under Buckley the parents can have access to his school records; and
2) do not apply to foreign students .

Does this mean the foreign student is exempt? No one ever answered.

PART SIX
RESEARCH

The innate complexity of the world that science seeks to know is exceeded only by the complexity of the administrative and financial structure jointly erected by the campus and the government to sustain the research. It defies simple description or analysis, but an attempt must be made for purposes of this report.

A Statistical Summary

Perhaps the best place to begin is with the University of California of which Berkeley is a part. The University is the largest recipient of federal research funds in American higher education and probably of federal funds for any purpose. In FY 1975-76, 24% of its current funds for expenditures came from extramural sources, over 80% of which was delivered by Washington. Federal contracts and grants for the University totalled $265 million. Total federal monies reached $275 million, in comparison with $152 million in FY 1971-72. However, federal funds have been rising at a slower rate than other sources, so the percentage of total University current expenditures covered by federal outlays dropped from 23.3% in 1971-72 to 19.6% in 1975-76.

On the Berkeley campus, total operating expenditures in FY 1975-76 reached $226.3 million of which $51 million were federal funds, or 26.7%. For comparison purposes we may examine the figures submitted by Berkeley for the American Council on Education report in 1963 entitled Twenty-Six Campuses and the Federal Government, which contains data on FY 1959-60. At that time federal funds on campus amounted to $11.1 million or 21% of Berkeley's operating expenditures. Federal funds for departmental research in 1959-60 amounted to 19% of total campus operating expenses; in 1975-76 they had reached 23%. Thus Berkeley has moved from depending on Washington for a fifth of its funds to a bit over a quarter, and from having just under 20% to the present 23% of its operating expenditures going for federally funded research.

Since our concern here is with research, federal funds devoted to that may be isolated for further analysis. In 1959-60, twenty federal agencies supplied research funds to the campus, counting units within DOD and HEW separately, and the figure was essentially the same in 1975-76. Table One supplies information on the sources of the bulk of these funds.

Table One

Origin of Berkeley Federal Research Funds by Major Sources

Agency	1959-1960 % of Federal Project Research Funds	1975-1976 % of Awards Received by Federal Sponsor
DOD	44.3%	10.9%
AEC/ERDA	7.4	1.6
NASA	0.5	6.2
NSF	15.1	24.8
HEW	26.4	44.2
NIH	15.5	-
PHS	9.5	39.9
OE	1.5	2.7
USDA	2.1	1.1

The table documents the substantial shift in funding sources that has occurred in the past fifteen years, away from DOD and the AEC and toward HEW and NSF, particularly the Public Health Service. There has also been a shift in the distribution of federal funds on the campus, although it is difficult to be precise. Of the $51 million in federal funds received in FY 1975-76, $45.8 million was expended by campus schools and colleges. Of this figure, $37.7 million (excluding overhead) was for research, which represented 84% of all research expenses. In the ACE report, Berkeley's federally funded research expenditures are divided into four categories - health professions, engineering, arts and sciences, and agriculture - but it is unclear if the breakdown is of funds that went to schools and colleges directly or includes the funds going to separate organized research units. In any event, Table Two compares this breakdown for 1959-60 with one for 1975-76, the latter referring solely to federal funds lodged in school and college budgets.

Table Two
Percentage Distribution of Federal Research Funds Among Major Fields

	1959-60	1975-76*
School of Public Health	10.9%	11.0%
Engineering	30.8	19.2
Arts and Sciences	41.0	34.7
Agriculture and Natural Resources	11.4	13.4
	94.1	72.2

* College of Chemistry research monies were divided between Engineering and Arts and Sciences.

As explained, the four areas may not have been defined the same way in the 1959-60 report as in this study, which may account for some of the differences. However, it seems that Engineering and Arts and Sciences (College of Letters and Science at Berkeley) may receive a smaller share of total federal research funds. As indicated by the totals, these four areas combined also receive a smaller share. Not included in the 1975-76 figures are the over $6 million for organized research units, over $1 million in federal funds in the Law School, and smaller amounts in the schools of Education and Business Administration. This suggests that federal research funds are now a bit more widely distributed around the campus.

However, this picture changes if all research funds are assigned to categories that cut across the Arts and Sciences. As Table Three illustrates, federal funds for research remain very heavily concentrated in the natural sciences (65%) and Engineering (19%). This is less true in training and public service funds. The distribution has not changed significantly since FY 1969-70.

Table Three
Summary of Federal Expenditures
(Excludes Indirect Costs)
Figures in Thousands

	FY69-70	FY70-71	FY71-72	FY72-73	FY73-74	FY74-75	FY75-76	FY75-76 %
Arts & Humanities								
Research	290	300	355	522	564	579	500	1.3%
Training	279	189	125	167	240	242	279	5.5
Public Service	10	17	112	69	73	86	133	8.0
Total	579	506	592	758	877	907	912	
Engineering								
Research	4,405	4,905	5,142	5,964	5,935	6,188	7,255	19.2
Training	161	127	155	96	95	80	78	1.5
Public Service	24	20	55	65	66	102	181	10.9
Total	4,590	5,052	5,352	6,125	6,096	6,370	7,514	
Natural Sciences & Math								
Research	17,028	17,157	17,707	19,659	21,322	23,963	24,349	64.5
Training	1,118	1,258	1,315	1,583	1,695	1,742	2,008	39.4
Public Service	28	59	28	-	259	341	454	27.4
Total	18,174	18,474	19,050	21,242	23,276	26,046	26,811	
Professional Schools								
Research	3,890	3,984	4,138	5,773	5,133	5,168	4,990	13.2
Training	2,580	2,821	2,205	1,952	1,684	1,571	1,440	28.3
Public Service	1,063	1,121	871	789	783	652	658	39.7
Total	7,533	7,926	7,214	8,514	7,600	7,391	7,088	
Social Sciences								
Research	843	911	851	1,128	923	763	661	1.8
Training	322	233	246	142	183	1,251	1,287	25.3
Public Service	-	-	-	-	-	-	-	0.0
Total	1,165	1,144	1,097	1,270	1,106	2,014	1,948	
Other								
Research	109	50	14	11	5	-	-	0.0
Training	34	24	27	41	65	-	-	0.0
Public Service	225	145	127	173	152	190	231	13.9
Total	368	219	168	225	222	190	231	
Total								
Research	26,565	27,307	28,207	33,057	33,882	36,661	37,755	
Training	4,494	4,652	4,073	3,981	3,962	4,886	5,092	
Public Service	1,350	1,362	1,193	1,096	1,333	1,371	1,657	
Total	32,409	33,321	33,473	38,134	39,177	42,918	44,504	

Table Three also points out that in current dollars, federal research funds were steadily increasing at Berkeley from FY 1969-70 through FY 1975-76. However, the rate of increase was 2.5% in 1973-74, 8.2% in 1974-75, and 3.0% in 1975-76 which is clearly below the recent rate of inflation. *Federal research expenditures are declining in constant dollar terms*. Nor have all portions of the campus fared equally well in the shifts in federal largess. Engineering and the natural sciences have been growing in current dollar terms, but professional school and social science receipts peaked in FY 1972-73 and have declined a good deal since, particularly if the effects of inflation are included.

Table Four concerns federal research *awards*, rather than expenditures, for the past two fiscal years and provides further evidence of a decline, even in current funds. In FY 1976-77 total federal awards were down 14% over the preceding year, while awards from other sources rose by 9.2%.

Table Four

Research Awards by Sponsor

1975-1977

Awards by Sponsor		Cumulative to Date	
	7/1/76 - 6/30/77	7/1/75 - 6/30/76	% Change
Federal			
OE			
#	25	26	-3.85
Amount	$ 1,491,645	$ 1,610,713	-7.39
NIE			
#	6	1	+500.00
Amount	$ 290,372	$ 39,551	+634.17
PHS			
#	278	346	-19.65
Amount	$ 18,022,283	$ 23,864,757	-24.48
Other HEW			
#	6	9	-33.33
Amount	$ 250,218	$ 943,469	-73.48
NSF			
#	205	234	-12.39
Amount	$ 13,379,582	$ 14,846,066	-9.88
Army			
#	13	35	-62.86
Amount	$ 598,703	$ 1,549,404	-61.36
Navy			
#	40	39	+2.56
Amount	$ 3,268,614	$ 3,493,621	-6.44
Air Force			
#	14	11	+27.27
Amount	$ 1,037,357	$ 1,536,787	-32.50
NASA			
#	63	67	-5.97
Amount	$ 3,423,708	$ 3,684,296	-7.07
ERDA			
#	16	14	+14.29
Amount	$ 981,067	$ 954,225	+2.81
USDA			
#	60	55	+9.09
Amount	$ 634,428	$ 676,657	-6.24
USDI			
#	23	24	-4.17
Amount	$ 575,079	$ 521,898	+10.19
DOL			
#	6	5	+16.67
Amount	$ 233,440	$ 249,461	-6.42
AID			
#	37	23	+60.87
Amount	$ 3,628,264	$ 1,502,470	+141.49
DOT			
#	10	6	+66.67
Amount	$ 488,744	$ 313,272	+56.01

EPA			
#	6	8	-25.00
Amount	$ 245,896	$ 785,777	-68.71
DOC			
#	6	19	-68.42
Amount	$ 436,875	$ 468,924	-6.83
NEA			
#	3	7	-57.14
Amount	$ 27,188	$ 65,317	-58.38
NEH			
#	17	13	+30.77
Amount	$ 947,263	$ 680,556	+39.19
Other Federal			
#	19	19	0
Amount	$ 1,455,613	$ 2,029,254	-28.27
State			
#	99	96	+3.13
Amount	$ 2,051,557	$ 3,161,425	-35.11
Lawrence Berkeley Lab			
#	104	26	+300.00
Amount	$ 2,011,415	$ 468,062	+329.73
Lawrence Livermore Lab			
#	8	5	+60.00
Amount	81,106	$ 39,594	+140.27
Private Grants			
#	555	451	+23.06
Amount	$ 3,566,014	$ 3,955,909	-9.86
Private Contracts			
#	241	180	+33.89
Amount	$ 2,740,729	$ 1,752,674	+56.37
Foreign, County, Municipal Agencies			
#	19	23	-17.39
Amount	$ 436,530	$ 595,155	-26.65
Total Federal Awards			
#	853	961	-11.2
Amount	$ 51,416,339	$ 59,816,475	-14.0
Total Other Awards			
#	1,026	781	+31.4
Amount	$ 10,887,351	$ 9,972,819	+9.2
Total Awards			
#	1,879	1,742	+7.86
Amount	$ 62,303,690	$ 69,789,294	-10.73

An important element in research support is money for assisting graduate students and training young investigators. Federal support here comes in the form of money in contracts and grants which is used to hire research assistants or employ students in other ways, and in fellowship and trainee programs. The latter are very much preferable from the student point of view. Unfortunately, federal support of this nature has declined sharply in the past decade, (Table V), particularly in view of inflation.

Table Five

Federal Traineeship and Fellowship Support

1967-68

Program	Number of Students	Dollar Amount
NSF Grad Trainees	137	693,652.00
NSF Grad Fellows	190	948,000.00
NDEA Title IV	211	979,300.00
NDEA Title VI	142	432,500.00
NASA	32	156,800.00
HEA Title IIB	18	478,976.00
USPHS Predoc Fellows	102	522,314.00
TOTAL	832	4,211,542.00

	1975-76 Actual		1976-77 Estimated	
Program	Number of Students	Dollar Amount	Number of Students	Dollar Amount
NSF Graduate Fellowships and Graduate Traineeships-Science	97	451,000	93	474,000
NDEA Title IV	--	--	--	--
NDEA Title VI	58	187,000	58	198,000
NIH Research Training Grants and Fellowships	293	1,574,626	234	1,380,911
NIH Health Manpower Training Grants and Scholarships	159	449,265	164	824,053
NIMH Fellowships and Training Grants	151	678,846	117	603,949
HEW Social and Rehabilitation Training Programs	--	--	8	34,592
	798	3,340,737	674	3,515,505

General Comments on the Federal Relationship With Higher Education in Research

Two recent studies admirably document the widespread concern within universities about the current state of and perceived trends in the relationship between the federal government and those who spend its money in the name of science. Science at the Bicentennial, A Report From the Research Community is a survey of the attitudes of leading figures in universities, as well as industry, government laboratories, and independent research institutes. The State of Academic Science, The Universities in the Nation's Research Effort by Bruce Smith and Joseph Karlesky is a study under National Science Foundation auspices that reflects contacts with myriads of individuals in thirty six universities, as well as numerous special studies and background papers. Both reports find people associated with research pressing the following major complaints:

1) Funding in research is inadequate. Government funding has not kept pace with rising needs and costs, it is excessively aimed at applied at the expense of basic research, and it lacks sufficient continuity.
2) Because of these funding problems it is difficult to ensure a steady flow of talented young scientists. Money is lacking for support of graduate education, for providing faculty openings to new PhDs, for supporting the research of young faculty.
3) All of these problems arise because of the lack of a consistent overall national science policy.
4) Available funding is increasingly encumbered by regulations that bureaucratize the scientific effort in the name of accountability.
5) The entire tone in the relationship between government and the universities has changed. A mutually profitable partnership has been dissolved, replaced by a more acrimonious, adversarial stance on the part of each.

Berkeley shares these views. They are consonant with the recent experience of this university in its federally funded research activities. Much of what follows is an elaboration of Berkeley's perspective that parallels comments and complaints widespread both on this campus and elsewhere.

On the Problem of Funding

As one graduate dean here has remarked, "it's like being in an elevator with the ceiling fixed and the floor rising." The costs of research continue to rise precipitously, both the direct costs - salaries, equipment, space, materials - and the indirect costs - administrative overhead, energy, maintenance. Berkeley has not experienced a decline in the dollar volume of federal awards in recent years. But it is being squeezed by the failure of federal outlays to pace rising expenses. Principal investigators and administrators complain about the increasing difficulty of making ends meet.

Part of the funding problem is increased emphasis on applied rather than basic research. Campus opinion on this score is not unanimous. A number of principal investigators and lab business officers have noticed no change on the part of "their" federal agencies. Others report that it is simply a matter of changing the labels; one shifts the emphasis a bit in the initial proposal and the progess report, while doing pretty much the same degree of basic research anyway. For these people it is difficult to distinguish basic from applied research. However, many investigators and the central administrators on research matters hold the view that a shift in the government's attitude away from basic research has taken place, that this affects the nature of the research being done, and that there is a detectable trend in favor of contract research rather than less restrictive program grants. This is also the view that was expressed by UC President Saxon in a meeting of higher education leaders with President Carter earlier this year. The graduate deans also perceive greater stress being placed by the government on big projects which inject chunks of funding into the national labs, institutes, observatories, etc. away from the individual investigators at this university and others.

Basic research also suffers from the shortage of funds in that there is too little flexibility in the entire research system. Lack of funds eliminates much "venture capital" for supporting investigators and projects on the intellectual peripheries of a field, from where major breakthroughs so often come. There is too little opportunity to exploit the serendipitous elements in research, to follow up on unexpected findings, new avenues, or puzzling new questions that appear as projects proceed. Part of the complaint about excessive federal regulation is that, reinforcing federal funding limitations, it contributes to a *rigidity* antithetical to good science.

Finally, in a remarkable fashion the government has **managed** to ensure that its funding simultaneously lacks both long and short term continuity. In long range terms a boom and bust cycle prevails in many fields - space sciences and oceanography are "in" for a while, then slump while funds pour into cancer and energy. This stems from a mistaken notion that there is a relatively close correlation between the solution of specific scientific problems and the money thrown at them. It disrupts the orderly progress of research in many fields, and should be replaced by a system with a certain level of relatively consistent funding over many years to sustain the research base in numerous fields, coupled with additional funds shifted from one area to another to reflect national needs and interests at the moment.

Such a cycle is also hard on universities, which are long term in their basic nature. Berkeley has been fortunate in generally not having to attempt to swiftly adjust to changing fashions in research, for it takes a good deal of time to put together a research team, build up students, reorder space, and concentrate equipment to sustain a research effort. However, even here there have been investigators forced to let available funding dictate their research interests, lest their painstaking efforts to build and sustain a research unit be undone by the drying up of interest in the original field.

Also lacking is long range multiyear funding, even for projects of which the agency clearly approves. This is not a problem that can ever be solved as long as Congress insists on annual appropriations, so everyone lives with it. Agencies make a long term commitment in anticipation of the necessary funds, and this is fine if the investigator's project is very high up in the agency's priority list. He has about as much certainty as one can get in depending on Congress. But if the project is far enough down the list, it may be funded again next year or it may not, depending on what Congress appropriates, what inflation does to the costs of the projects higher on the list, and whether the project fits the agency's desire to spend all its money, i.e. will one's project leave an unspendable remainder in the budget while another further down the list would take all the agency has left.

In the short run, agencies quite regularly cannot renew a contract or grant for the next year before the current year runs out. Again Congress is often at fault due to the delays in its appropriations, but sometimes its legislative inertia is supplemented by the agencies' bureaucratic lethargy. What results is a gap, during which people must be employed and the project kept running. This is a regular problem at Berkeley, about which more is said later in this report.

On Developing Young Scientists

Many at Berkeley say it is harder now to provide for young scientists. The problem starts with fewer openings for graduate students and less money to support them. Concern about financial support led to a decision this Spring to shift $1 - 2 million from undergraduate to graduate aid, to try to offset a part of the decline in federal fellowship and trainee funds in recent years.

The problem continues with limited slots for new faculty. Many promising young scientists are on the postdoc treadmill while awaiting an opening. One of the more alluring aspects of Berkeley's future is the fact that it now has a relatively old faculty, which will begin turning over at a much higher rate after the 1980s, which many now see as a golden opportunity to reinvigorate the institution.

Many experienced faculty and administrators at Berkeley also believe it is more difficult for the young scientist to get established now than it used to be. Constraints on space are severe, particularly on an old campus (Berkeley lost out in competition for a $5 million microfabrication unit earlier this year partly because there was no available place to put it.) Competition for available contracts and grants is greater. There is less money for trying new things, and the young scientist can be more vulnerable to the pressures to go where the money is than his better established colleague.

On the Lack of a National Science Policy

The nation now has a national science policy only by accretion. Lumps of money go here and are taken from there on the basis of recent interests or current problems. Fields go in and out of fashion for reasons other than the intrinsic merit of the work being done in them. The result is a set of isolated decisions and programs.

One possible alternative model would have a more integrated national science policy that attempts to carefully weigh the present comparative utility of various fields and to allocate funds in a highly structured way in keeping with that assessment and with the current goals of the nation. This is bringing resources carefully into line with an elaborate assessment of needs and priorities. That model rests on an excessively simplistic, rationalized notion of the capacity of government and the nature of science. It might well do more harm than the present system.

More appropriate would be a national science policy derived within the following assumptions. First, the nation needs a certain fundamental research capability in many different fields, because it is simply impossible to predict where national needs and interests will shift or where major breakthroughs and resulting opportunities will occur. Second, shifting of federal research priorities should definitely be provided for - flexibility here is vital - but on top of, rather than at the expense of, the fundamental core national research effort. If there is a substantial research base in many fields then it will be far easier to mount rapid expansions in those that become "hot" in terms of either breakthroughs or public policy, and to do so with minimal disruption of other fields. Third, a considerably decentralized, entrepreneurial cast to the national research effort will be the most productive framework for science. This means sustaining the health of university research facilities (as well as those outside the university) and of the individual principal investigator. It means eschewing attempts to elaborately plan research either on a national scale or with respect to any particular project. Fourth, accountability requirements cannot be defined apart from the other assumptions on which the national policy rests. Accountability must refer to the scientific effort being funded, not just the funds. It must be sought in keeping with the nature of the nationally designated structure for research, i.e. linked to the decentralized, flexible system within which research takes place.

On Regulation

Since much of the remainder of this report is concerned with the impact of regulation on the campus, little need be added here. With some exceptions Berkeley investigators, academic administrators and financial-purchasing-maintenance personnel agree that current federal regulations in the area of research are excessive, that they handicap or even cripple many aspects of the research endeavor. It is widely believed that the federal concept of accountability is faulty, that the processes for designing legislation and regulations are out of touch with the realities of both science and universities, that the enforcement of regulations is petty and insensitive, and that the burdens far outweigh any benefits obtained. That is a rather broad catalog of sins. Not much else could be wrong, short of outright malfeasance. If only some of them are present, then there is trouble; if all of them are present, then there is a good deal of trouble.

On the Tone of the Federal-Higher Education Relationship

It has become a cliché in higher education circles to announce that an old and once thriving "partnership" has broken down. The central feature of this partnership was mutual confidence. The government had confidence in scientists and universities, a belief that they would manage research and the federal funds for it in a humane and efficient manner. The result was a growth in scientific knowledge and technical progress that more than justified the government's investment. In turn, universities and investigators had confidence in the government, a belief that the government appreciated the importance of institutional and professional autonomy and recognized the virtues of flexibility in the administration and conduct of research. Oversight would not become intrusion. Thus the government was willing to put up quite a lot of money in an unusually expansive and flexible way, and universities were willing to take it despite the, theoretical, threat of later government intervention. Such is the cliché.

The biggest trouble with clichés is that they are dull, not that they bear little relation to what's true. Most get to be clichés (and dull) because for a period of time they are a conveniently concise and accurate reflection of reality. This cliché is of that sort. The underlying structure of the government's support of campus research is relatively unchanged - the funding is not all that different, the fact that it fluctuates is not new, the lack of an overall science policy has been consistent, the kinds of institutions it supports and the format of awards are relatively stable. What has changed is the tone of the relationship, the broad perception by each of the other, the network of expectations about each other's behavior, the psychopolitical milieu that these expectations sustain. And the change has come relatively quickly, in less than a decade.

From the perspective of a major university, what broad alterations in the government's perceptions and attitudes would be necessary to correct this situation? The starting point would be for the government to confront more directly the implications of continuing to foster and finance research in educational instututions. Some of these are obvious upon a little reflection but they are seldom considered these days within the government.

The first implication is that one cannot sponsor research within an educational environment without paying sympathetic attention to the nature of that environment. Educational institutions are distinctive, just as governments or corporations or unions are. They attract certain kinds of researchers. They will have their own ways of doing business, their distinctive mores and values, their particular methods for evaluating people, their peculiar ways of distributing power and authority, in short a distinctive organizational pattern. All this is part of what the government "buys" when it sponsors the research in that environment. If the environment is deemed a productive one for doing good research, then government must expect to have to accomodate to it to some considerable extent. Accountability works both ways.

A second, and most important, implication is that since the institutions exist to do more than research they will attempt to link research to other activities. In particular, as educational institutions they will try to plug research into teaching. This will affect the ways people in the institutions do the research, the procedures they use, as they adapt the research effort to fit the other personal and institutional goals that flow from membership in a university. It's not just that educational institutions have a particular environment, but that the environment exists because of the other perfectly respectable goals of those institutions.

The government can hardly expect institutions to refrain from attempting to meld research into that environment. To not do so is to bifurcate the organization. The threat of bifurcation always exists anyway, because research is in many ways an overlay on the traditional structure of the university. Thus non-research budget outlays are dictated by educational/instructional needs and functions, not research priorities and achievements, and even indirect cost monies generated by research are often siphoned off into these other areas of the campus. Research remains somewhat insulated even though it is the most distinctive feature of the great contemporary university. Institutions have worked out a tolerable, but hardly perfect, fit between the two - by inserting research accomplishment as a major component in faculty selection and advancement, and using research work alongside the faculty as a core element in graduate instruction (and sometimes undergraduate instruction).

However, recent government actions have not made it any easier to sustain this somewhat tenuous arrangement. For years the government acquiesced in research monies being used to indirectly help finance education; now this is rejected. Government financial regulations currently seek to separate out each research project and cut off the practice of treating employment on awards flexibly to maximize support for graduate students and postdocs. The government seeks a more rigorous accounting of the faculty member's time, severing the loose flow of his effort from research to teaching and back.

Where the government mandates behavior that would clash with the organizational environment, the established folkways, of educational institutions compliance will be lukewarm and various forms of evasion or pseudocompliance will be practiced. Evidence of this is all around, and it has a tendency to corrupt when carried too far for too long. To bring on this state of affairs hardly serves the government's purposes and it can ultimately damage the research enterprise.

Another implication is that since institutions must continuously attempt to integrate externally sponsored research with their other objectives and missions, they will try to get the government to bear some of the costs of doing this. If the government gets the benefit of an environment that attracts and sustains first rate scientists and research - the institutions will argue - that is part of what it should pay for. This contention is at the root of numerous clashes on specific problems such as indirect costs, the "necessary" documentation on projects, using awards to support graduate students, etc.

Finally, one element of that environment may well be crucial to successful research; it certainly is widely believed to be so. This is the relative autonomy of those who do it, and of the institutions in which it is done. Professors will insist on answering to their peers in the field and their colleagues in the institution - rather than to the government alone. Institutions will want to respond to their competititors, the regents/trustees, various benefactors, the students - rather than simply to the government. This colors all of their notions of accountability. It appears valuable to have intellectual inquiry somewhat free from the self-interests of those paying for it, performed by people not totally dependant on the financial sponsors for their employment and advancement. Sponsoring research at educational institutions should proceed with this in mind, and this perspective should shape the nature and degree of intrusion the government is willing to attempt. Universities should not have to constantly remind the government of what is in its own best interest when it comes to research.

Regulations Pertaining to the Conduct of Research

For many years there have been regulations imposed by the federal government on the spending of funds, procurement of equipment, travel expenses, consultants and many other features of contracts and grants. These are discussed further on in this report. In recent years, restrictions have been added on certain kinds of research - with human and animal subjects and in recombinant DNA - which pertain to the kind of investigations that may be undertaken and the ways in which they must be conducted. These restrictions are the subject of this portion of the report.

I Human Subjects Research

In December 1965 the National Advisory Health Council recommended that the Public Health Service require institutions to examine every PHS-sponsored project with an eye to the welfare of human subjects.

Shortly thereafter the Surgeon General was moved to do so, initiating what eventually became the current DHEW regulations for the protection of human subjects. As a result a complex relationship has grown up between the government and higher education on human subjects research. The government funds much of this research, and is interested in having someone see to it that the rights of individuals are secured. Institutions and researchers want to do the research, and they also want to retain what they can of the traditional autonomy of higher education and the professional autonomy and flexibility deemed vital to honest research. It turns out these two sets of purposes can be made to coexist only in a somewhat uneasy equilibrium.

The key to the federal-higher education relationship lies in enforcement. The government can issue regulations aplenty, but someone must sit down and apply them to each research project. It would be best if concern for human subjects was applied in both the design/approval stage of a project and in the actual conduct of the research, and in neither is the government in a position to deal directly and intimately with the researcher. One obvious solution is to stick the higher education institution with the task of policing the research on its campus. Enforcement then takes place at a local level; those responsible can deal directly with teh researcher, and can do so by drawing on people professionally competent to evaluate research. This requires a certain faith in the integrity of the institution, something government agencies have been know to lack, for it puts enforcement in the hands of those with a strong interest in doing the research and who are colleagues and associates of the researcher. It also invites multiple standards, with institutions developing different conceptions of the unacceptable, permitting research at one institution forbidden in another. Thus the government has been led to specify, via regulation, certain details of the enforcemtn process, and thereby intrude more deeply into the institutions. For example, over the years the required documentation on securing a subject's consent has increased.

The larger context is the growing clash between individual rights and the needs of research. The nation has been increasingly concerned about the right to privacy, not just in the traditional sense of preventing unwanted physical intrusions but also the right to control access to information about oneself. Government has also been steadily broadening the notion of who has such rights, with particular attention to those who are vulnerable because they are not fully capable of controlling their lives - convicts, patients in hospitals or mental institutions, children, the aged.

This clashes with research moving in the opposite direction. More and more, researchers seek and have the tools to uncover knowledge about intimate aspects of individual and social behavior: the workings of the brain, sexual behavior, the use and effect of drugs, exposure to carcinogens, socialization patterns, and so on. Information technologies now make possible ever deeper penetration into peoples lives and the gathering of data formerly unavailable or so scattered as to lie beyond the investigator's grasp. Fears raised by FBI surveillance, CIA drug experiments, or the haphazard collection of information for credit references are easily transferred to seemingly analogous research improprieties.

Thus human subject regulations vis-a-vis universities offer considerable insight into a kind of government intrusion that is likely to grow. The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research has been established by P.L. 95-348 and is finding things to do. It will make a number of proposals in this area. Also at work is the Privacy Protection Study Commission, which seems intent on expanding the impact of the 1974 Privacy Act.

There is an old debate, stirred by nuclear weapons research and revived by work on DNA, over whether there is some knowledge men should not have because of the use they may make of it. While this surfaces in connection with human subjects research, another philosophical question bulks larger here - are there kinds of knowledge people (in a university) should not obtain because it is too costly in terms of the value we put on the individual subject to do so? The government's answer is yes, marking a new concern in its relations with higher education, but it is uncertain just where the line is to be drawn. A parallel ethical issue arises in research on animals, but we are less reluctant to sacrifice animals on behalf of science. Sacrificing people, by invading their autonomy or privacy or by putting them at risk in experiments, we deem a much more delicate matter.

Summary of the Regulations

The HEW regulations put the responsibility for safeguarding human subjects squarely on the campus. Berkeley must review all campus human subjects research proposals that seek HEW funding to determine whether the subjects will be "placed at risk", the risk involved is outweighed by the prospective benefits, the rights and welfare of human subjects will be protected, and proper "informed consent" will be obtained. The campus has submitted the required written assurance of its intent to live up to these responsibilities, which indicates in detail how it does so. Such an assurance must describe the board that reviews proposals and the principles it follows, and must include the names and background of the board members. The regulations also describe the kinds of informed consent documentation that are acceptable, and include a clear prohibition on the inclusion of any exculpatory language under which a human subject would waive his or her rights or release the institution from liability. They also prescribe certain features of the board (minimum size, minimum quorum size), and assert that "Each institution ... shall provide the Secretary with such reports and other information as the Secretary may from time to time prescribe."

Alongside the HEW regulations, that odd bureaucratic reflex toward unnecessary duplication has appeared. The Energy Research and Development Administration felt compelled (in November 1976) to issue its own regulations. They quite deliberately imitate HEW regulations very closely, even to the use of the same language in most sections. In fact, where the initial draft departed from the HEW model, and people complained, it was revised to eliminate most of the remaining differences. And ERDA allows institutions to merely cite approval by HEW in order to be certified. Why, then, have the ERDA regulations at all? The Army has its own regulations, very similar to HEW's. NSF uses the HEW regulations but is reportedly considering promulgating its own. Doubtless, a search for a meaningful purpose behind such duplication would be futile. The Congress is considering putting an end to it by making HEW the lead agency on these matters.

One other regulation might be mentioned at this point because it emanates from concern for human subjects even though it is not a part of the HEW rules. The Federal Reports Act of 1942 as amended, and OMB Circular No. A 40(1973), empower the government to review questionnaires, survey instruments, and interview schedules when federally funded research involves identical survey items being given to ten or more people, where the results will go to a federal agency for its purposes. The Office of Management and Budget has delegated review authority to the various funding agencies. Of course this introduces additional delay and paperwork in research, but it's unclear how stringent enforcement is at Berkeley. The objective is prevention of unnecessary intrusions into people's lives by survey research and provision for some review of whether the information is of the sort people and agencies ought to be collecting, as well as reflecting a need to prevent unnecessary duplication. It is most unlikely that any of these objectives are realized.

The heart of the HEW regulations is the insistence that campuses establish an institutional review board to evaluate and continually monitor research projects. The board must have at least five members, who must be of sufficient "maturity, experience, and expertise", and that expertise must extend to campus administrative practices, relevant legal aspects, community attitudes and other matters rather than consisting solely of professional competence in research. Care must be taken that no board member has a conflict of interest with respect to a proposal submitted for review, and at least one person from outside the campus must be a member.

Berkeley Policies and Practices

The campus has adopted a policy on the protection of human subjects, periodically revised since 1972 to reflect changes in HEW rules as well as campus concerns. The latest version appeared in March and is fifteen pages in length. It lays down basic principles on protection against risk, the need for informed consent, and the importance of respecting the privacy of human subjects. Some interesting features include:

> No information concerning a project may be withheld from a potential subject in order to increase the willingness of the subject to participate in the project.

> Subjects may be paid, provided that the payment is not so large as to constitute an improper inducement.
> If participation as a subject is part of the academic work of a student, it must not be a coercive or mandatory requirement, and appropriate informed consent must be obtained.
> When research takes place in a foreign culture, the investigator must consider the ethical principles of that culture...

The Committee for the Protection of Human Subjects is a standing subcommittee of the Graduate Council, which is itself a standing committee of the Academic Senate. It assesses every research proposal in terms of the physical, psychological, and social risk that subjects will face. Each of these concepts poses a fistful of problems. Physical risk is relatively amenable to definition, though determining acceptable levels is far less so. Psychological risk is necessarily fuzzy, especially where the point of an experiment is to induce stress. The concept of social risk produced the biggest debate on campus, a debate which is reviewed later, before it was agreed to define it as a "loss of personal or material possessions, be put in legal jeopardy or suffer personal degradation". This has virtually nothing to do with "social" risk, that concept having been shredded and discarded in the debate.

Campus policy also defines informed consent as involving the following elements in a presentation to subjects:

1) a clear explanation of the research, its purpose and procedures;
2) a description of risks and benefits involved;
3) a description of anticipated benefits;
4) a disclosure of any alternative procedures advantageous for the subject;
5) an offer to answer any questions;
6) a statement that the subjects can quit the project at any time.

The Berkeley Committee currently consists of sixteen members, including two community representatives who alternate in attending. It is staffed by an Executive Officer and three assistants housed in the Campus Research Office although not administratively a part of it. The Committee meets once a month, usually for three hours. All meetings are tape recorded and elaborate minutes are kept. An agenda once consisted of between 85 and 110 items, but it is now down to about 60. However only 10-15 will require substantive Committee discussion, the rest being lodged on the "consent calendar".

The business of the Committee is generated by proposals and protocols on research projects submitted by investigators. About a third of the Committee's cases involve thesis research while half or more are concerned with regular sponsored research. The remainder are assorted other projects, such as a recent Law School survey of its 1977-78 applicants' socio-economic backgrounds. The Committee has issued instructions for preparation of a protocol, which require that the investigator summarize the project and describe the subjects to be used. Risks to subjects and benefits of the project must be discussed, along with the efforts planned to minimize risks, protect the subject's privacy, and ensure the necessary confidentiality of the information. Procedures to be used in obtaining written informed consent of the subjects must be described. Any questionnaires or interview schedules to be used must be included or, if they are not yet available, described. A signature from the investigator's immediate supervisor (chairman, dean) is mandatory. Finally, the investigator can include a request for a waiver of the requirement for written informed consent from the subjects, which the Committee grants only under certain circumstances.

The Executive Officer of the Committee initially screens all protocols and frequently returns them to investigators for correction or expanded information. This review covers not only the protocol but the research proposal from which it is derived. Often the two do not entirely agree, and the Executive Officer must seek a clarification or an adjustment of the protocol. In a majority of cases there are either no risks or minimal risks, or the adjustments required are modest; the Executive Officer prepares a summary and recommendation of each of these items for the consent calendar and they are usually approved as circulated when the Committee meets. Where the protocol involves more than minimal risk, deception research, medical research, or special categories of vulnerable subjects - prisoners, children, mental institution patients - the Executive Officer's summary and the protocol receive the scrutiny of the full Committee. In addition, medical research items are circulated to the medical profession members prior to the meeting, with their comments then added to the summary. These members constitute a kind of permanent subcommittee, and other subcommittees are formed occasionally to consider specific issues, such as access to medical records, or to assist the Executive Officer when immediate action is required.

The workload falls mainly on the Executive Officer, a full time position, and the Chairman, a faculty member who serves on a half time basis. The Chairman's duties extend beyond administering Committee affairs to representing the Committee, sifting through the flood of literature on human subjects matters, and attempting to soothe distraught researchers.

An investigator is notified in writing of Committee approval, as is the federal funding agency. On multiyear projects, approval must be re-secured annually. In most cases the original protocol remains valid and the investigator need only assure the Committee he is keeping to it; where changes are occurring an amended protocol must be submitted. On particularly sensitive projects the Committee can insist on regular progress reports during the year.

The jurisdiction of the Committee has been expanding. It is increasingly entangled with provisions of the 1974 Privacy Act and the Buckley Amendment. All NSF Fellowship projects (30-40 per year) are now reviewed by the Committee as are all Fulbrights. Next year the Committee will review all HEW fellowship projects (over 200) funded on the campus. The Food and Drug Administration regulates use of new drugs in research under the Food, Drug, and Cosmetic Act, regulations which are applied by the Committee. Finally, there are state regulations on human subjects and on access to student and employee records pertinent to research, which fall under the Committee's purview.

Of course, the Chairman and members work to disseminate information on human subject regulations to the campus. In addition to administrative duties associated with the above, the Executive Officer and the Chairman report annually and in detail to the Dean of the Graduate Division not only on recent Committee Actions but on current legislation and other developments pertinent to regulation of human subjects research.

Effects of the Regulations

People at Berkeley closely associated with the work of the Committee do not agree on the effects of the human subjects regulations. The various points of disagreement are reviewed within the following discussion of the overall impact of the regulations.

Benefits

In assessing benefits we are partly in the position of trying to measure non-events; the ultimate benefit is avoidance of excessively risky and harmful research but it is never possible to be certain as to the reasons for its absence. There is no evidence that irresponsible research would flourish in the absence of the regulations, but it does appear that they have some effect.

It is noteworthy that a majority of cases submitted to the Committee are assessed as having some risk involved - in 1973, only 31% of the cases were held to be riskless and one other study concludes that an average of 24% are so classified. Thus a majority of the protocols must be examined with care, and the Executive Officer or the Committee often make suggestions to researchers as a result. This has led to such improvements as a reduction in the number of people with access to confidential results, smaller doses of radioactive trace-elements being used, better safety precautions, and elimination of misleading statements to subjects.

It is reasonable to assume that the Committee's effort to inform the campus about the nature and importance of the human subjects requirements has raised the level of conscious attention to them. Presumably concern about putting a proposal before the Committee and risking a rejection has risen also. Thus it is generally believed that researchers are more sensensitive about preventing or minimizing risks and breaches in confidentiality than they once were.

Another, related, benefit is that the necessity to face Committee scrutiny can produce improvements in research design. This may result in developing methods to obtain the required information without using human subjects, or in improvements in a whole project (not just its safety features) because of the additional attention given it in its formative stage.

A major benefit is the accumulated knowledge about possible hazards in human subjects research, embodied in the Committee's files and a growing pool of experienced people. This is particularly important in view of the vagueness of the HEW regulations. The real meaning of "risk" has been defined and refined by the work of the Committee and cannot be grasped by looking at the language of the regulations. The backlog of experience at Berkeley, personal and institutional, is the essential element in meaningful enforcement of the regulations.

In sum, the regulations do some good but how much is unclear. In its entire existence the Berkeley Committee has apparently refused approval to only two research projects. In one a student wanted to use an illegal drug; in the other, a student wished to study abuse by attendants in a small school for the mentally retarded, and the Committee insisted he get parental written consent (and possibly attendant consent) while the school would not permit the research on this basis. This can be taken as evidence that there is plenty of attention to the rights of the subjects at Berkeley; or it can be seen as evidence that the Committee works hard to avoid rejecting projects thereby weakening enforcement of the regulations.

Financial Costs

In 1976-77, the budget of the Committee was $79,856, primarily for the work of the Committee's Executive Officer and other staff. In addition, salary support for the chairman, on half-time, was $18,000. Thus the direct cost of the human subjects regulations was $97,856.

However, this does not include the costs of the time put in by the Committee members, nor that of the secretarial and investigator time and effort in compliance with regulations, nor any increased project costs that result from Committee insistence on changes in the research designs. There is no sure way to calculate these. One reasonably good estimate in 1973-74 reached these cost figures:[1]

Committee Chairman (half-time)	$14,600
Other committee members' time	12,600
Other administrators' time	700
Costs of the Executive Office	41,400
Costs incurred by researchers	17,600
	$86,900

Expansion of Committee business and salary inflation have upped that figure considerably, to the point where the direct costs alone now exceed $97,000 and the best estimate of the Committee members' time is $16,000.

Limitations on Research

This is a most sensitive subject, and there is no agreement among those well informed about human subjects. With regard to the possibility that some research escapes Committee clearance, it is important to note that the HEW regulations (and those of other agencies) legally apply only to agency funded projects. No government jurisdiction over other research has been assumed (nor could it be without provoking a fearful row). However, part of the campus pledge to HEW is that all human subjects projects, regardless of funding, will be reviewed, so the end result is much the same. It is easy to ensure scrutiny of funded research because such proposals must pass through the Campus Research Office, wherein the Executive Officer resides. Unfunded research is another matter. Student research comes to the Committee's attention only if the student or the faculty supervisor takes the initiative. The same is true of most research funded by departments or colleges. Other problems arise with the definition of "human subjects". It is customary to treat contemporary historical or humanities research as outside this category. Yet it would seem there are considerations of privacy and possible harm to individuals when access to a person's records or personal papers is an important part of the research, as it often is. The subject may be deceased but what about his family or those mentioned in his papers and their families? Still other problems relate to the definition of "research". Is campus journalism research, or the work of interns from the School of Public Policy? The current Committee position is that "research" for its purposes is an activity intended to lead to publication of the results (which would include theses). This does help control the Committee's workload but it is not hard to imagine circumstances under which the definition would seem too narrow.

Considerations of this sort incited sniping between the University Administration and the Berkeley campus that began in 1972 and was not resolved until this year. In late 1972 the University issued a policy on human subjects that extended the HEW regulations to cover "all investigations involving human subjects for which the University is responsible", not just those funded by federal agencies. In addition, for no compelling reason, it asserted that the regulations applied to "classroom activities, demonstrations, and other activities in which human subjects may be at risk." Successive Chairmen of the Berkeley Committee and other campus officials found this an alarming development, for it would take a very large increase in the staffing and workload of the Committee to make even a modest effort at compliance. After years of suitably genteel correspondence, matters came to a head this spring. The Berkeley Academic Freedom Committee, various campus officials and people from other U.C. campuses attacked the University's policy. Finally, the Vice Chancellor wrote that the policy was simply unenforceable and that the campus would not comply unless explicitly instructed to do so. This, plus a meeting with University officials, produced a decision in April to restrict the application of the policy to research, with the Committee also to offer advice to instructors on classroom activities.

This episode is a good example of the indirect effects government regulations can have on the campus. Since the HEW regulations are vague, numerous debates have arisen as to how they should be interpreted and applied. It has been up to the Committee, and in some cases the faculty, to thrash out definitions and set norms of conduct.

The other major criticism of the Committee is that it is too much imbued with the perspective of the researcher. A recent dissertation[2] on the implementation of HEW regulations at Berkeley concludes that they are not rigorously enforced. After all, the Committee members are colleagues, sometimes friends, of the investigators. They share the general belief in the virtues of science and the potential benefits of research that dominate a research-oriented institution like Berkeley. That research will be beneficial is largely assumed, so there is no meaningful weighing of benefits against risks. The Committee tends to search for ways to allow the proposed research to be done, negotiating with the researcher and, in a way, representing his viewpoint much more than the human subjects who will be involved. "This representational role for the board consumes a great deal of the board's time and tends to shift the responsibility (and the work effort involved) for complying with the Rules from the investigator to the board."[3] On this basis the analyst concludes that "Although it is ten years since the PHS guidelines were first announced, human subjects are as much in need of protection as ever."[4]

This is also the view of the specialist on human subjects regulations in the General Counsel's office at University Hall. He feels researchers do not treat the costs of securing informed consent as legitimate research problems, but instead invest effort in getting around the regulations or seeking a waiver. He feels the research community has failed to grasp the depth of public concern about unethical research, the fact that privacy is a constitutional right while academic freedom is not, and the need to confront important ethical questions directly, particularly in connection with "deception" research where misleading the subject is a central part of the experiment.

However, the current Chairman of the Committee and numerous Berkeley faculty feel that very little real "research" on human subjects escapes the Committee's attention, and that the regulations do inhibit research in various ways, either by loading burdens on the researcher or precluding certain kinds of potentially valuable research. Some of the arguments along these lines are as follows:

1) On informed consent. There are numerous problems with requiring written informed consent from subjects. Much research in the social sciences requires a random sample; asking consent may skew the sample that results when some people say no. Also, in a field like Anthropology, research may involve non-literate peoples; written consent then is meaningless. Next, research done abroad can be sharply inhibited by consent requirements, since asking formal permission may arouse suspicion (in Communist countries, for example) or invite fears that the researcher is an intelligence agent or a representative, somehow, of the local government. Public health researchers are very concerned about the difficulties of getting written consent from addicts or alcoholics. Also, the regulations limit access to medical records. In the past the researcher could call patients to ask their consent. Now, however, the Committee requires that the hospital make the initial contact since, under federal privacy laws, only the hospital has a right to the information. The hospital doesn't call, it sends a form letter - even a postcard. The result is apt to be a high turndown rate.

   Written informed consent can actually have a "coercive" effect on some subjects. If the subject is from a low socio-economic background or barely literate, he may well regard the consent form as a legally binding obligation of the sort pressed on him by finance companies or process servers. Thus he may refuse to sign or, on the other hand, fear that having signed he has no right to object or withdraw from the project, producing the opposite of the effect sought by the regulations. A careful verbal explanation may be only marginally effective given the subject's unfamiliarity with research, and his memories of signing legal-looking papers in the past.

Next, getting informed consent can make some research impossible. Several faculty interested in the study of addicts argue that if one must ask the addict for permission, it is quite likely he will say no - he does not, perhaps, want to admit addiction, or call attention to himself, or have his name on a file or a list that someone might subpoena. In many an experiment it is important that the subject not know there is one or know all about it, lest his behavior be altered and thereby undermine the value of any findings. In many other projects rapport between researcher and subject is vital and cannot be sustained if the investigator must then ask for consent, as if he needs protection in case something goes wrong or because he hasn't conveyed the whole truth about what is to take place.

Thus the researcher may need to make use of waiver provisions in the campus regulations. The Committee grants waivers of consent requirements under certain conditions. If the risk is minimal or the subject volunteers under a clearly advertised project, it is assumed written consent is not vital. Waivers are also granted for research with non-literate people, and with those who are believed able to protect themselves - politicians, administrators, etc. who are accustomed to being interviewed. Waivers are also available for the researcher getting data on a second person held by a third person, such as when one is using membership files of a club or institution, so that the investigator can avoid having to contact each of the persons the information concerns. Also, waivers are granted when a project could not be undertaken if informed consent was used, when asking for permission could damage or destroy the research. Of course, granting waivers means removing one of the basic controls over human subjects research, so if the Committee grants them freely the impact of the regulations is sharply reduced, while refusing most requests would inhibit a good deal of research.

2) Academic Freedom. There is concern about the fact that someone on campus, acting as an agent of the government, has been empowered to control certain kinds of research in ways never before possible. Such power might be misused, if not now then in the future. Although the author of the previously mentioned dissertation on human subjects research regulations finds them beneficial, he does note that "the DHEW rules and the local review boards literally ensnare the human research enterprise in a network of procedures and requirements which tends to remove the conduct of research from the control of the institution".[5]

   One illustration of how such concerns may arise pertains to a major debate on the Berkeley campus several years ago over the meaning of "social" risk. The initial campus interpretation of this was that an individual can be harmed if the research in which he is a subject results in damage to the image or reputation of the group to which he belongs (ethnic, racial, etc.). For instance, if research on Berkeley could damage the reputation of the campus this could be considered as putting the administrators to be interviewed at risk. The Berkeley Academic Freedom Committee, and other faculty, found such a definition unacceptable, because in effect it offers to protect subjects from research that leads to opinions and conclusions they don't like. Presumably this could inhibit research on minorities, other disadvantaged groups, institutions not currently in favor, and so on. The debate was extensive and in the end the Berkeley faculty rejected this broad definition of social risk in favor of one that is confined to a subject's suffering a loss of "personal" reputation or personal degradation. HEW eventually reached the same conclusion.

3) Barring some research. Numerous faculty claim that some potentially valid and valuable research is not being conducted due to the regulations. This is another non-event problem: how can we tell when something hasn't occurred and why? One lab director reports that his research would benefit from use of human subjects, but the complications, restrictions, and paperwork involved have discouraged him for fear that too much of his lab's time and effort would be required. The Committee

has decided that it is unacceptable for a researcher to pick his way through medical records in order to select patients to interview (this compromises patient privacy prior to consent), which means the researcher must either pay someone sufficiently skilled to know what the researcher is after (and who has legal access to the records) to do the search, or give up the project. It can be difficult to get parental consent for research on children which, it is held, has discouraged some projects. In addition to formal rejection of a project the Committee may express such strong reservations that the protocol is never resubmitted; one study to assess the effects of pesticides on farm workers fell by the wayside in this fashion.

4) Delays. This is also not an easy phenomenon to document. Typically, Committee action takes only two to four weeks. However, it is not uncommon for researchers to submit incorrectly prepared protocols, which increases the delay and their frustration. Also, an acceptable delay for a faculty member may be less so for a student who is seeking to complete a project within an academic quarter.

The Committee feels it is now efficient in its handling of cases. While there are numerous complaints about delays they are largely complaints about having to go through the process at all, rather than directed at the work of the Committee. This brings evaluation of the delays down to one question: are the regulations worthwhile at least enough so as to justify inconvenience to researchers?

Concluding Comments

The area of human subjects research is an extreme case of the institution being assigned the task of enforcing government regulations, to the point that the campus is really the regulator. The HEW regulations are not all that elaborate, and they are vague. It has been left to institutional review boards to write the detailed regulations and work out their application on a case-by-case basis. This is an elaborate exercise in self regulation, undertaken so that the government may have attention given to the problems it perceives, while the campus retains much of its autonomy and some control over the content and implementation of the regulations, which in turn means better access for the researcher and a sympathetic reception for his concerns. With this institutional autonomy and researcher access, of course, comes the bulk of the costs - financial and bureaucratic.

One effect is, as we have seen, that segments of the campus disagree on the impact of the regulations and on possible reforms. Some people on campus now have a certain degree of self-interest in the regulations. The General Counsel's Office at University Hall is paid to keep the Regents out of court, not to advocate the views of the researcher. Thus the regulations have defenders on more than grounds of their innate social value. However, the milieu at Berkeley is definitely in favor of research. Any restrictions on research will draw some fire simply because they interfere with the self interests of the researchers. All such restrictions will be interpreted with sympathy for the research enterprise.

This disagreement extends to proposed reforms. The Chairman of the Committee would prefer that the government specified more precisely what it meant by risk, set up standards of research malpractice, and established civil and criminal penalties for the researcher who is in violation. This would both strengthen the government's role in defining what is acceptable and put the primary responsibility on the investigator, where it belongs. It would end in the Chairman's words, "The present thrust ... toward interposing a multi-layered bureaucracy between the scientific investigator and his legal and moral responsibilities."

Another study done in 1974 at Berkeley[6] supports this view that more responsibility should be on the investigator, and added other proposals. One was that the HEW regulations not make determination of risk, and thus of non-risk, a matter only for a quorum of the Committee, as they now do. Berkeley skirts this regulation via the consent calendar. It has been suggested that if someone happened upon a simpler way to approve projects with minimal risk, it would be more efficient for everyone involved. Another proposal was for the HEW regulations to disclaim intent to damage research and to express strong support for studies aimed at improving human lives. The campus officially wrote to HEW several years ago to propose this, and while the initial response was positive no such addition to the regulations has occurred. (A third proposal, to remove the provision in HEW regulations that a project could not be sent to the agency until it has been approved by the campus Committee, was adopted.)

Others find the existing arrangements relatively satisfactory, at least in so far as faculty complaints are concerned, but worry that inadequate concern is being paid to human subjects. They would prefer that the Committee enforcement be more thorough.

Regardless of their views, all parties are concerned about the possible expansion of governmental bureaucratic controls on research (such an expansion was proposed a few years ago). It is difficult to be comfortable with regulations on campus now that, if stringently interpreted, could virtually outlaw all research with people who's capacity to freely give consent is impaired - such as prisoners or children or the mentally ill. It is disturbing when HEW (as it did in 1974) attempts to construe the National Research Act as requiring that all research be subject to federal regulations in institutions that receive any research funds, for this is a bold attempt at encroachment. And it is alarming when a major study can arrive at the somber conclusion that

> both the initiative and responsibility in respect to controls on human research have passed to Congress and to the DHEW, and no longer lie ... with institutions of higher education or with the research community. The over-arching federal involvement in human research has in large measure erased the possibility that human research activities can ever again be governed at the local level, except on a delegated basis. Laws once passed require other laws to amend and change.[7]

A delicate balance must be struck, and the government is not always good at that. But then, who would guarantee that the university or the faculty will always be good at it either?

II DNA

A significant area of research which the government now regulates is work in recombinant DNA. Government concern in this area has been so strong that the applicable regulations are very detailed, even though implementation and enforcement is essentially in the hands of campus authorities. In research with human subjects, the government's concern is that harm not come to those involved; in research using radioactive elements, there may be anxiety about environmental damage as well. DNA research is worrisome for both reasons, but the fear is of an entirely different order of magnitude. The human subjects involved could well be all of us, and any part of life on the planet might be the environment affected. Thus this research is not dealt with under the rubric of existing health and safety regulations but via entirely new regulations generated for that purpose.

The curious thing is that there is no evidence that recombinant DNA research is dangerous. All of the alleged dangers are hypothetical. But we are in an era when evidence of harmful and unintended consequences of earlier scientific and technological changes surrounds us - on carcinogens, on aerosol sprays, on pesticides. Of particular importance is the fact that early pressures for control over DNA research came from scientists, many attached to major universities. This regulation of academia was proposed by academics, which has made it easier to implant a major new set of regulations, although not without continuing criticism that the regulations either go too far or not far enough.

The NIH guidelines for DNA research run to 41 pages of exceedingly fine print (Federal Register-style). They deal with organisms that can be used, safety features for facilities, required safety procedures for lab personnel, even the clothing worn and the signs on the doors. They are an outgrowth of the fact that it is now possible to use certain enzymes to slice into a DNA molecule, remove a segment, and insert it into another DNA molecule, creating a new strand of DNA. Such a strand is a set of genetic instructions for the development of an organism, so it is possible that entirely new organisms might be created and that some of these would be dangerous. In theory they might be exceedingly dangerous if they were harmful and were so unfamiliar as to be beyond the capacity of biochemical defense systems of plants, animals and people to contain. The effects produced might resemble the deadly swath through North American native populations cut by smallpox, syphillus and other diseases that were introduced by Europeans. Hence the regulations concentrate on two remedies. One is to forbid certain kinds of research, namely research using organisms known to find people to be highly congenial hosts, so that toxic forms might spread and reproduce quite easily. It has long been the practice to require that research using dangerous substances be conducted only under carefully controlled conditions but this is the first time in the recent history of science that there has been a complete public prohibition of a kind of research. Some of the regulations on human subjects come very close to doing this, the provisions on fetus research for example, but introduce elaborate standards and review mechanisms rather than put the research in question off limits. Thus this is a precedent-setting action, with the usual disagreements as to whether the precedent is a good one or not.

The other remedy is to set increasingly stiff standards of containment as the theoretical danger of the research increases, the objective being to reduce the chances that any dangerous organisms created might escape. Containment is of two sorts. Biological containment means doing the research with organisms that cannot readily sustain themselves in an environment outside the lab. Physical containment means designing labs and safety procedures so that organisms are not transmitted outside the lab. Possible experiments are classified according to their danger and designated as appropriate for a P-1, P-2, or a P-3 facility (P-4 being the research that is banned). As one moves up the scale the biological and physical containment requirements grow.

This campus, like many others, has facilities that can qualify for P-1 or P-2 level research with modest adjustments. The real impact of the regulations comes at the P-3 level, for to meet these requirements will mean extensive remodeling of existing labs. Currently Berkeley has a project to develop three P-3 labs and intends to upgrade others to P-1 and P-2 status. The projected cost of the remodeling and new equipment is in the neighborhood of $1.1 million.

The key enforcement provision in the regulations is that they mandate creation of a campus committee to oversee all facets of DNA research and the facilities being used. At Berkeley this is the Biohazards Committee, created in the fall of 1976. Since its inception the Committee has developed a set of campus guidelines to ensure compliance with the NIH regulations. It has also reviewed all DNA research on campus and instituted a program to monitor it on a continuing basis. It has examined the existing facilities and laid plans for future control over DNA research to be exercised by the Committee and the campus Office of Environmental Health and Safety. And it has given some thought to other biohazards on campus and designed recommended guidelines with those in mind.

The Committee consists of ten faculty and staff, two students, and one member from the city of Berkeley. It met roughly once a month for two hours each. Several subcommittees have also met at least that often; for instance, one subcommittee has conducted on site inspections of ten or eleven labs. The Chairman reports spending 6 to 8 hours in connection with each meeting - preparing the agenda and the minutes, gathering and distributing materials. He has also tried to keep up with the voluminous literature on DNA safety matters, has conducted briefings for major administrative staff meetings, handled correspondence, participated in a statewide committee trying to influence federal legislation on DNA, and testified before city and state legislative bodies. At least 25% of his time has gone into this work.

DNA regulations offer an excellent case study in the "echo" effect of federal actions, in which federal initiatives are soon followed by interest in the state government and even local governments. What can result is a set of overlapping regulations and reporting requirements that carry the total burdens and restrictions far beyond those initially envisioned in Washington. This is a point that has not received the attention it deserves, and the early stages of DNA regulation amply illustrate it.

After the NIH guidelines appeared and the subject was picked up in the national media, several state legislators began to express their concern. A hearing was held in January and several bills were eventually introduced in the legislature. One of them calls for creation of a California Biological Research Safety Commission that would have to certify as safe all research facilities that engage in "hazardous biological research". Notice that this would mean a new agency to which the campus would report, with new regulations. It would also bring under state scrutiny a great many kinds of research projects other than DNA, broadening the constraints on the campus and the investigator.

Then it occurred to the General Counsel's office of the University that the hazards of DNA research might well be construed as environmental in nature. Such research would therefore be subject to the California Environmental Quality Act, which would necessitate filing an environmental impact statement on each research project. This threatens an ominous escalation in the paperwork and regulation pertaining to the research. The Biohazards Committee believes that this requirement is satisfied by the overall environmental impact report filed by the campus with NIH, but individuals in the General Counsel's office remain unconvinced.

Meanwhile the Berkeley City Council considered action,much as city officials in Ann Arbor and Cambridge had several months before. While the Council's primary focus was on possible DNA research in corporate labs in the city, it also wished to hear about Berkeley's plans, so the chairman of the Biohazards Committee spent some time discussing these matters with the Council. In the end it was decided to forego action until federal and state plans had been completed, but not before the Council heard from people who believe it should take a more active part in regulating hazardous biological research on campus.

As the NIH guidelines only pertained to federally funded projects (other agencies accepted the NIH guidelines as part of their regulations), federal legislation was introduced by HEW and various congressmen to extend controls to all such research. People on campus find some of the draft provisions as likely to have a chilling effect on DNA research in general and have participated in efforts to have these modified.

For the principal investigator, the DNA regulations take on substance when he confronts the campus policies. The Biohazard Safety Manual for the campus was first issued in draft in March, revised in April and again in June, and is now before the Chancellor's Cabinet for final approval. Counting appendices and an attached bibliography, it runs 51 pages. There are complaints about certain provisions so it may be revised one more time before being officially established. Here is a brief review of its main elements.

Under the Manual at least one member of the Biohazards Committee must approve any project using biohazardous material, even one with little danger. The research also falls under the jurisdiction of the Office of Environmental Health and Safety (EH&S), and a Biohazard Safety Officer on the EH&S staff. The investigator must maintain records concerning biohazards and the monitoring of them on his project, as well as on the personnel involved, which are to be available for inspection by EH&S or external agencies. These records are to include information on the "receipt, use and disposal" of biohazards. He must see to the proper posting of signs and labeling of hazardous substance containers, as well as making regular surveys of lab sites.

To secure permission to work with recombinant DNA, or with other agents deemed moderately to severely hazardous, the investigator must submit a request for a Biohazard Use Authorization. He must then undergo a personal interview by EH&S and an inspection of his workplace. His request is to be evaluated in terms of twenty-two different factors. When completed, the EH&S analysis is submitted to the Biohazard Committe for approval. Such an Authorization is only good for a year and must be renewed annually on continuing projects. During that year the project must be reviewed by EH&S and, where advisable, by the Committee.

Investigators and instructors must see to it that people are properly notified about hazard areas. Departments must arrange for personnel to get the necessary instruction on safety precautions. Chairmen, along with deans and other administrators, must review and approve proposed uses of biohazardous materials. The Biohazard Safety Officer must approve all shipments of hazardous materials, checking on packaging and labeling, including transfers to another UC campus or institution elsewhere. He must even approve all transfers of these materials on campus. All hazardous agents and contaminated waste must be sterilized by autoclaving under the personal direction of a participant in the research or teaching group.

There are provisions governing the use of animals. Any proposal involving animals in biohazards research must also be approved by the campus Animal Subjects Committee and Campus Veterinarian. These animals must be University owned (exceptions require prior approval) and kept in separate cages, with contamination controls practiced and caretakers given special instructions.

The use of biohazardous materials in classes requires special authorizations, good only for one academic quarter. The instructor must submit information on himself and any assistants, the number of students per assistant, the way materials will be used, the ways students will be involved, etc. Names and social security numbers of all students must be submitted as soon as the course begins.

Any proposal to administer biohazards to people requires the approval of both the Biohazards and Human Subjects Committees There are also provisions on medical surveillance of people possibly exposed to agents, on immunization, and one which allows the Biohazards Committee to require medical examinations of personnel involved if it feels this is necessary. To deal with accidents, all projects must have a written plan for dealing with credible emergencies, and any accidents must be immediately reported, and then further reported in writing within 24 hours.

One can readily see that an elaborate network of organizational controls has been established, controls which enforce quite detailed provisions on laboratory practices in both campus and NIH guidelines. Thus the investigator will have to put forth a very considerable effort to get a clearance to do his work, and will face recurring clearances and project reviews as the research continues. It is important to stress that the Manual will apply to a great deal of research other than DNA. These elaborate provisions designed with NIH requirements for DNA in mind will govern far more than DNA research, an excellent illustration of the secondary effects government regulations often have on campus.

Recent Developments

The controls over DNA and other possible biohazards are almost certain to grow more elaborate in the near future. Many DNA researchers have been very upset by the legislation now pending in Congress. The Senate bill (sponsored by Senator Kennedy) would create a National Recombinant DNA Regulation Commission, with more than half its members drawn from outside biological research. It would be charged with regulating and licensing such research, making use of inspectors. Thus it would supercede HEW's authority here, and new regulations and enforcement mechanisms would ensue. The major House bill would make such a Commission advisory to HEW and leave local campus committees in charge of inspection and enforcement of HEW regulations, although it retains the restriction on membership of the Kennedy measure. Both bills come at a time when geneticists believe new strains of organisms are now available for doing DNA research that will make biological containment exceedingly effective, and greatly reduce the necessity for the interference envisioned in the Kennedy bill.

In the area of other biohazards, many federal agencies are now active. For several years the Federal Occupational Safety and Health Administration has been pressing for controls in research that would be equally as strong as those in industry. New hazard control criteria and requirements have been developed or are being considered by such agencies as the National Cancer Institute and the National Institute of Occupational Health. A blizzard of new regulations will result, although many may closely adhere to the existing pattern of those on DNA and thus place enforcement in the hands of the campus Biohazards Committee.

Final Comments

The Biohazards Committee has so far faced no serious difficulties in its work, receiving excellent cooperation. It has not had to foreclose any proposed research nor suspend any ongoing work. Much of the Committee's effort has been of an exploratory policy making nature because there are less than a dozen DNA related projects on campus now. However, the Chairman is convinced that a good deal more recombinant

DNA research would be conducted on campus if it weren't for the regulations. A number of faculty have apparently decided that the time and effort involved to do even relatively harmless research is just not worth it.

Thus the regulations involve a variety of costs. There may be some relatively significant research that has been deferred by the regulations. Financial costs include those for remodeling, plus additional staff the Committee has indicated will be needed in the Environmental Health and Safety Office. If the workload grows like that of the Human Subjects Committee, which is plausible in view of current concern about carcinogens and other biohazards, then staff costs would eventually be at least $50,000 per year. Next there are costs in terms of faculty time: the time of the Committee members, and the time it will take investigators to negotiate their way through the new clearances and reviews. Some investigators are complaining that to keep records on all hazardous materials as they come in, are used, and are disposed of will be an impossible chore, that approval is required for too many activities. This is an inherent difficulty in writing rules to guard against contingencies the likelihood and effects of which are unknown. One tends to err on the safe side, to multiply procedural controls.

Other burdens include the efforts required to try to keep regulation at the local, state and national levels within the bounds the campus believes to be tolerable. One of the difficulties is that external authorities do not fully realize that to ban everything dangerous is to kill off research. In several of the sciences, uncovering something new means risking unforseen and personally dangerous results. The two go together, for if the investigator knows exactly what to expect he doesn't really need to do the research. A certain degree of risk comes with the business. (One of the features of life as a biochemist is a higher rate of cancer than the national average.)

Another difficulty is that external authorities lack a clear notion of what it means to devote one's life and career to a particular line of research. They are able to contemplate, with equanimity, banning an investigator's project or shutting down his research, without fully grasping that a life's work may be at stake. From this perspective, it is wise to have the application and enforcement of regulations centered on campus, particularly since some of the hazards are as yet hypothetical.

What benefits flow that offset these burdens? One of the most significant is the encouragement given to serious thinking about these matters, and the emergence of precautions as the fruit of that thinking. The possibility of serious harm makes an organized and disciplined analysis of the situation vital, but that could have been difficult to inspire without the catalyst provided by external regulation.

A second benefit, as has been noted, is that the Biohazards Committee has been able to concern itself with many dangerous substances and conditions, not just DNA. In regard to recombinant DNA the perils are theoretical, but campus labs are full of organisms and substances long known to be terribly dangerous. In the last few years EH&S has uncovered an anthrax culture growing in a laboratory sink and encephalitis organisms sitting in an unlocked refrigerator in a corridor. A lab centrifuge ruptured at one point and spread Tuberculosis germs around the lab and somewhat beyond. Such chilling occurences are not the result of extremely tough enforcement. As several people have suggested, a very stringent application of biohazard and environmental safety regulations would mean shutting down virtually all the campus labs. Thus government regulations are of considerable benefit. Berkeley is and will be much better equipped to detect and correct inadequately safe facilities and procedures because of the catalytic role played by external regulations.

A third benefit is that Berkeley has an interest in the public, locally and nationally, being satisfied that its welfare in this matter is being looked after. The university relies on public support and needs to protect itself from criticism where it can, not only in a narrow public relations sense, but because a sympathetic public attitude is of great value in all its endeavors, including research.

Animal Subjects Regulations

The campus veterinarian has estimated that between eight and ten million of the extramural research dollars on campus each year finance projects that involve animals. This gives Berkeley considerable incentive to heed the regulations pertaining to animal welfare and ensure that it is in compliance. Although these regulations have some impact on teaching, their major thrust concerns the use of animals in research. As is well known, this is a sensitive subject and, much like human subjects and DNA regulations, public concern is an important factor to be considered.

The basic statutory authority is Public Law 89-544 (1966) the Laboratory Animal Welfare Act, as amended by Public Law 91-579, the Animal Welfare Act of 1970. From this legislation stem the implementing regulations issued by the Department of Agriculture, HEW, and certain sub-agencies of HEW such as NIH.

Current USDA regulations run to 32 pages in length, many of which are directly applicable to Berkeley. Some of the key provisions are as follows. The campus must be licensed by the Department, and certify that it will comply with the standards. Each year, by February 1, the campus must submit a report indicating:

1) that the standards are being complied with;
2) the location of facilities where animals are used;
3) the types and numbers of animals used;
4) the number of experiments that involve "pain or distress" without anesthetics or tranquilizers, and the reasons for each;
5) that an attending veterinarian or committee certified that the anesthetics or tranquilizers used were appropriate to prevent unnecessary pain or distress.

Each live dog or cat "delivered for transportation, transported, or sold" must be identified by the campus by its official tag (the regulations prescribe the nature of the tag). For these animals the campus must record the identity and address of the supplier, the date acquired, the description and identification of each dog or cat and (when they are transported or sold) the name and address of the recipient, the sale date, and the method of transportation. These records which must be kept at least two years and are to be open to Department inspection. The Department may also visit campus facilities as necessary to inspect and to enforce the law. Law officers are also entitled to inspect the facilities for missing animals.

There are requirements as to facilities for dogs and cats. They must be structurally sound, have water and electricity, have adequate food storage and waste disposal facilities, be kept at 50° F. or better, provide proper ventilation to keep them no hotter than 85° F., have the right lighting, be properly drained, and have moisture proof walls. (The temperature requirements necessitate air conditioning, which the state refuses to supply for people. To meet existing rules the air must circulate 6-8 times per hour for people, at least 12 times per hour for animals, which roughly doubles the energy costs.) Other provisions cover outdoor facilities and primary enclosures. There are minimum requirements as to food, water, and cleaning of facilities - the last to be done with water at least 180° F. There are elaborate transportation requirements as well.

There are separate provisions for guinea pigs and hamsters along the same lines, including minimum space requirements spelled out in inches. The same is true for rabbits and for primates as well, including the requirement that "each nonhuman primate shall be observed daily by the animal caretaker in charge or by someone working under his supervision".

HEW requires the campus to file an assurance in writing that it continually evaluates its facilities to see they are in accord with both the Department's regulations and its "Guide For Care and Use of Laboratory Animals". HEW also insists that Berkeley facilities be accredited by the American Association for Accreditation of Laboratory Animals - inspection and licensing by the Department of Agriculture or state authorities is specifically mentioned as not sufficient. The campus is also required to have a committee to oversee animal use programs, although it need not review contract and grant proposals.(The Berkeley committee does.)

No regular reports are required; instead HEW must be informed only when significant changes or problems arise, which seems a sensible arrangement. There are the usual record keeping provisions, with records to be retained for three years and open to HEW perusal.

Failure to comply can lead to withdrawal of eligibility for future HEW awards involving animals. A particular award may be cancelled or a particular investigator's eligibility dropped And if HEW orders a violation ceased and there is no compliance a fine of $500 for each day it continues can be imposed. This gives the agency a rather precise set of actions it can take, unlike the sweeping penalties sometimes mandated by other federal laws and regulations.

HEW also sets standards for research projects. They must be designed to "yield fruitful results for the good of society, and not random and unnecessary in nature". They must "avoid all unnecessary suffering and injury", with anesthetizing used unless it would defeat the purpose of the project, and with any killing done "in a humane manner".

It is perhaps worth commenting that these last requirements are vague to the point of being not much more than expressions of hope. The contrast with the human subjects regulations is noticeable.. There is reliance on the discretion of the campus and the investigator, which provides maximum flexibility for purposes of research but cannot be of great comfort to animal lovers.

The HEW "Guide" on laboratory animals adds a number of other detailed provisions. To illustrate, the Guide calls for confinement of primates in restraint chairs to be minimal, to be used only in unusual situations and not "as a convenience to the investigator". All lab animals must be identified in some way - by code cards, collars, tags, stains, tatooing, freeze branding, etc. Squirrel monkeys cannot be housed with owl monkeys or marmosets and rabbits must be kept in separate rooms, to prevent the transmission of disease. The campus must have properly trained personnel and provide for their safety.

The Guide also describes the following facilities as essential:

a separate building, wing, floors, or rooms for animals;
specialized labs;
receiving and storage areas;
showers, sinks, lockers and toilets for animal care personnel;
washing and sterilizing facilities;
a proper incinerator or waste storage facilities.

Some of the specifications on facilities include corridors at least seven feet wide, with noise traps when they lead to kennels. Equipment "should" have bumpers and there should be curbs and railings so as to protect corridor walls. Doors to animal rooms should be at least 42 inches wide and 84 inches high, "floors should be smooth, waterproof, nonabsorbent, nonslip, wear resistant, acid and solvent resistant, capable of being scrubbed with detergents and disinfectants, ..." The pitch of floors and minimum size of floor drains is detailed. Proper ceilings are described.

The proper temperature is 65° to 85° and the proper humidity 30 to 70%. Other requirements or recommendations pertain to lighting, food storage, noise, and sanitizing facilities. Details on facilities for large animals are fairly extensive, as are those for facilities where infectious diseases are being studied - with physical containment rules not unlike those for DNA. The space recommendations are contained in the accompanying chart.

SPACE RECOMMENDATIONS FOR LABORATORY ANIMALS

Species	Weight	Type of Housing	Floor Area/Animal (Square)	Height[1]
Mouse	Up to 10 g	Cage	39 cm (6 in)	12.7 cm (5 in)
	10 - 15 g	"	52 cm (8 in)	12.7 cm (5 in)
	16 - 25 g	"	77 cm (12 in)	12.7 cm (5 in)
	Over 25 g	"	97 cm (15 in)	12.7 cm (5 in)
Rat	Up to 100 g	Cage	110 cm (17 in)	17.8 cm (7 in)
	100 - 200 g	"	148 cm (23 in)	17.8 cm (7 in)
	201 - 300 g	"	187 cm (29 in)	17.8 cm (7 in)
	Over 300 g	"	258 cm (40 in)	17.8 cm (7 in)
Hamster	Up to 60 g	Cage	61.5 cm (10.0 in)	15.2 cm (6 in)
	60 - 80 g	"	83.9 cm (13.0 in)	15.2 cm (6 in)
	81 - 100 g	"	103.2 cm (16.0 in)	15.2 cm (6 in)
	Over 100 g	"	122.6 cm (19.0 in)	15.2 cm (6 in)
Guinea Pig	Up to 250 g	Cage	277 cm (43 in)	17.8 cm (7 in)
	250 - 350 g	"	374 cm (58 in)	17.8 cm (7 in)
	Over 350 g	"	652 cm (101 in)	17.8 cm (7 in)
Rabbit	Up to 2 kg	Cage	.14 m (1.5 ft)	35.6 cm (14 in)
	2 - 4 kg	"	.28 m (3.0 ft)	35.6 cm (14 in)
	Over 4 kg	"	.37 m (4.0 ft)	35.6 cm (14 in)
Cat	Up to 4 kg	Cage	.28 m (3.0 ft)	61.0 cm (24 in)
	Over 4 kg	"	.37 m (4.0 ft)	61.0 cm (24 in)
Dog[2]	Up to 15 kg	Pen or Run	.74 m (8.0 ft)	—
	15 - 30 kg	"	1.12 m (12.0 ft)	—
	Over 30 kg	"	2.23 m (24.0 ft)	—
	Up to 15 kg	Cage	.74 m (8.0 ft)	81.3 cm (32 in)
	15 - 30 kg	"	1.12 m (12.0 ft)	91.4 cm (36 in)
	Over 30 kg	"	REFER TO FOOTNOTE NO. 2	
Primates[3,4]				
Group 1	Up to 1 kg	Cage	.15 m (1.6 ft)	50.8 cm (20 in)
Group 2	Up to 3 kg	"	.28 m (3.0 ft)	76.2 cm (30 in)
Group 3	Up to 15 kg	"	.40 m (4.3 ft)	76.2 cm (30 in)
Group 4	Over 15 kg	"	.74 m (8.0 ft)	91.4 cm (36 in)
Group 5	Over 25 kg	"	2.33 m (25.0 ft)	213.4 cm (84 in)
Pigeon[5]	—	Cage	742 cm (115 in)	—
Chicken[5]	Up to ½ kg	Cage	232.3 cm (36 in)	—
	½ - 2 kg	"	464.5 cm (72 in)	—
	2 - 4 kg	"	1090.4 cm (169 in)	—
	Over 4 kg	"	1651.7 cm (256 in)	—
Sheep and Goat	Up to 25 kg	Pen	0.93 m (10 ft)	—
	25 to 50 kg	"	1.40 m (15 ft)	—
	Over 50 kg	"	1.86 m (20 ft)	
Hog	Up to 50 kg	Pen	.56 m (6 ft)	—
	50 - 100 kg	"	1.12 m (12 ft)	—
	Over 100 kg	"	2.79 m (30 ft)	—
Cattle	Up to 350 kg	Stanchion	1.5 m (16 ft)	—
	350 - 450 kg	"	1.7 m (19 ft)	—
	450 - 550 kg	"	2.0 m (21 ft)	—
	550 - 650 kg	"	2.2 m (24 ft)	—
	Over 650 kg	"	2.5 m (27 ft)	—
	Up to 75 kg	Pen	2.2 m (24 ft)	—
	75 - 200 kg	"	4.7 m (50 ft)	—
	Over 700 kg	"	14.0 m (150 ft)	—
Horse	—	Tie Stall	4.1 m (44 ft)	—
	—	Pen	13.4 m (144 ft)	—

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[1] Height means from the resting floor to the cage top.

[2] These recommendations may require modifications according to the body conformations of particular breeds. As a further general guide, the height of a dog cage should be equal to the height of the dog over the shoulders (at the withers), plus at least six inches, and the width and depth of the cage should be equal to the length of the dog from the tip of the nose to the base of the tail, plus at least six inches.

[3] The primates are grouped according to approximate size with examples of species that may be included in each group:

Group 1—Marmosets, tupaias, and infants of various species.
Group 2—Cebus and similar species.
Group 3—Macaques and large African species.
Group 4—Baboons, monkeys larger than 15 kg. and adult members of brachiating species such as gibbons, spider monkeys and woolly monkeys.
Group 5—Great Apes.

[4] Where primates are housed in groups in pens, only compatible animals should be kept. Minimum height of pens should be six feet. Resting perches, nesting boxes and escape barriers necessary for the well being of the particular animals should also be provided.

[5] Sufficient headroom must be provided so birds can stand erect without crouching.

Impact on the Campus

While the general focus of this report is on the past year, animal subjects regulations can be used to trace in a particularly clear fashion the ways in which government requirements may sharply alter campus practices and relationships over time. In this case there has been a clear trend toward centralization of control over animal care facilities and procedures.

The legislation of 1966 and 1970, and subsequent regulations plus state action, tightened the animal care requirements considerably. They led to the creation of a faculty Advisory Committee on Animal Care, establishment of the Division of Animal Resources and the appointment of a Campus Veterinarian. Berkeley also acquired and equipped a new lab facility in which clinical diagnostic and quarantine activities could be housed. In 1971, the policy of processing all purchases of primates, dogs and cats through the Division of Animal Resources and the Environmental Health and Safety office was initiated. The Division was made the sole location for quarantine facilities, to meet requirements in new state legislation and the wishes of the state Department of Public Health.

By 1972 the campus was deep into plans to rehabilitate its lab facilities, seeking additional state funding and federal grants. The Campus Veterinarian was ordered to regularly inspect campus facilities, report annually to the Chancellor on his findings, and prepare the statistical information required by USDA. Clearly the regulations were forcing centralization of the management of animal care.

These steps came none too soon, for in June 1972 the American Association for Accreditation of Laboratory Animal Care refused to accredit the Berkeley facilities. The Association cited the "lack of uniform standards and practices with respect to all aspects of animal care in all areas where animals are kept ..." It also called for a central campus office or group to sustain such standards, as well as broad improvements in facilities.

The campus hustled to correct these deficiencies. The Committee For Protection of Animal Subjects emerged. In 1973 a new cage washing policy was established for the main building housing lab animals, with the Division of Animal Resources absorbing a function previously performed by the various departments and investigators. That same year the Division was assigned responsibility for review and approval of all requisitions for animal housing and animal care equipment, and of all plans and specifications for construction or renovation of animal facilities before they were put out to bid. This was expressly to ensure compliance with NIH and USDA standards. In 1974 the Division was authorized to stock and dispense all narcotics and medicines used in animal research that are controlled by the Bureau of Narcotics and Dangerous Drugs, to dispense only those quantities necessary for immediate use, and to inspect projects using those drugs.

By 1976 the Division had acquired authority to supervise animal research project proposals. Under current campus policy, all such proposals (including renewal proposals) must be accompanied by an Animal Subject Protocol which goes to the Division for review. The Protocal lists the investigator(s) and describes the project; it must also name the animal species and numbers to be used and where they will be housed. It must discuss the procedures or experiments that will be performed and the pain involved, if any. Where pain or distress will result, this must be justified.

In 1977 the Division was made the receiving department for all shipments of live animals, ending the prior practice of having them arrive at individual loading locks or the Receiving Department. The change was held necessary to comply with federal and state rules.

The Division was also a central party in the resolution, in February, of a first class row that had pestered administrators for some time. One floor of the Life Sciences Building has long been assigned to a number of departments in several colleges for animal care and research, very precious space for all concerned. The facilities badly needed reassignment for various purposes and renovation to meet regulatory standards, but the prerequisite was that all the departments involved come to some sensible allocation of these scarce resources. That was asking too much, as repeated negotiations demonstrated. Finally, The Vice Chancellor imposed a solution. The facilities were withdrawn from the department's jurisdiction and turned over to the Division. Those involved had to negotiate directly with the Division on housing their animals, while the Division concentrated on clearing some of that space for other uses or to allow refurbishing.

Thus the Division of Animal Resources has grown into quite a sizeable operation, with a budget of $186,000 and 8.5 FTE in 1976-77, almost entirely under the pressure of external regulations. The Division's current activities that are impelled by federal and state requirements include the following. The Division now receives all animals delivered to the campus which, along with an inspection program for local dealers, allows it to pressure the vendors to maintain animal quality. It also permits the monitoring necessary to submit the annual use census on animals to USDA. The Division is responsible for quarantine of certain new animals to comply with the state quarantine law, the California rabies law, and the recommendations of HEW's Communicable Disease Center. It isolates diseased animals to meet federal law and HEW policy. The Division also runs a centralized animal care operation in which many, but not all, departments participate.

The Division program to ensure campus compliance with regulations ranges from periodic inspections to review of research protocols. Compliance needs are growing, and have recently dictated the hiring of a full time veterinarian. More staff will be needed in the near future. Evaluation of research protocols appears to be the responsibility of the Division, under the ultimate authority of the Committee For The Protection of Animal Subjects. Campus policy states that the Division decides if a protocol is acceptable, referring matters to the Committee only when there are "unresolved issues".

The Committee, composed of eight faculty members, appears to have a moderate workload when it comes to enforcing regulations. However, it has played a central role in planning renovation of the Life Sciences Building facilities when the logjam was finally broken. The Committee is a valuable forum for exploring policy issues and assessing campus needs.

Thus the regulations have induced Berkeley to establish a centralized supervisory agency, plus a Committee, on animal care matters.

Another result has been the upgrading of existing facilities or the construction of new ones. The Campus Veterinarian estimates that since 1976 Berkeley has spent roughly $3 million to bring its facilities into line with the regulations, including construction of the main animal care building. The Architects and Engineers Office indicates that current projects to refurbish animal care sections of existing buildings will amount to over $325,000 when completed. The regulations act as a lever to pry money out of the state government that it would otherwise not spend.

There are clear benefits to the campus of the regulation when it comes to research. Much needed improvements in animal welfare have resulted, including prevention of various kinds of improper and unnecessary research that used to occur. There is no sign that the regulations have prevented or unduly hampered any important research at Berkeley.

In addition, the quality of research and the reliability of results has been greatly improved, because the background variables are much better controlled. For example, a study of the effects of certain vitamins is readily contaminated if inadequate pest controls lead to proliferation of cockroaches that are then eaten by the animals, since cockroaches are rich in some vitamins. Uncontrolled effects of pesticides can alter the physiology of animals, distorting research results. Inattention to sanitary and safety conditions allows diseases to circulate, leading to the premature deaths of valuable animals or an inconclusive set of research findings. Berkeley has encountered all these problems and more. One campus project involving extensively trained monkeys was aborted when they all caught tuberculosis and died. One official doubts that the research results from work with animals prior to the last decade were worth anything, given the contamination of findings by the poor care for animals that was typical.

Thus animal subjects would appear to be an area where regulations have been clearly worthwhile, where the additional expenditures that resulted were needed and made possible in part by external pressures. It is also an example of regulations which are sometimes unduly complex, but where enforcement is left to the campus and few elaborate reporting requirements are included.

Contracts and Grants

There is no obviously superior way to organize all of the material pertaining to federal regulations on campus contracts and grants in this report. The solution chosen was to discuss matters roughly as they pertain to the award application - implementation - conclusion cycle. This is no more workable than some alternative formats, but it will permit shifting from the viewpoint and circumstance of the principal investigator to that of the campus and the University and then back again.

I The Application Stage

All projects begin as a gleam in someone's eye. Quite often the government takes the initiative, by sending out a detailed outline of the kinds of problems it thinks might be worth investigation and on which it has money to spend. For instance, on July 1, 1977 HEW issued Guidelines for Preparation of Grant Applications, Research and Developement Projects in Aging, Title IV - B of the Older Americans Act Fiscal Year 1977, about 100 pages outlining "researchable questions" and the application procedures. Unfortunately, it is not unlike the government to get notices out to interested parties perilously close to the deadlines for submitting applications - in some cases even after the deadlines. Both the departments (mainly the faculty) and the Campus Research Office have had to develop their own sources to track opportunities. Investigators have complained for years about this or that aspect of the details (and numbers of copies) required in applications, but these are familiar matters and need no discussion here. Of interest is the fact that the burden is increasing - the Dean of the Graduate Division reports that preparation of an adequately documented request for an NDFL program grant can take months.

Faculty Services to the Government

One of the hidden burdens on Berkeley faculty is participation in evaluations of other people's grant applications, as well as in other public service activities for the government. One faculty member who has done a good deal of this for NSF summarizes the work performed by science faculty in this way:

1) Service on study sections that review proposals. A section may

have upwards of 100 proposals, meet four times a year, all day for one to two days. Each member will have 10 to 15 of the proposals to review in depth prior to the meeting, on which a written analysis must be prepared. Sometimes site visits are needed to assess facilities. For this one gets travel and living expenses and $100 per day.

2) Service on agency committees, including emergency panels (on carcinogens, for example) or ad hoc panels to handle an excess of proposals.
3) Papers pertaining to proposals arrive regularly in the mail - for review.
4) Regulations impel formation of campus committees - Human Subjects, Biohazards - on which scientists must serve.
5) On some federal contracts, one must attend a workshop every six months or so to compare notes with others working on this research elsewhere (same rate of reimbursement).
6) National Academy of Sciences members are called upon to help meet the Academy's responsibilities under the law in monitoring science matters - more committees, panels, and meetings.
7) Under the law, approximately 2% of NSF's budget must go to improving public understanding of science matters. Scientists are drawn in as speakers at public forums, on panel discussions and the like, and as organizers of such affairs.

Many Berkeley faculty are involved in these activities constantly, usually at rates that, if nothing else, have the virtue of saving the government money.

No doubt there are side benefits associated with this work, including additional dealings with leading colleagues in one's field, good contacts with Washington agencies, a better understanding of what it takes these days to get projects approved, etc. In addition, Berkeley faculty have some opportunities to help design the specifications for federal programs, thereby helping to shape the direction and quality of future research.

However, it may be difficult to continue doing some of these things in the future, because of Office of Management and Budget Circular No. A-110. In this section A-110 will pop up constantly, so a short digression to outline it may be useful here. A-110 was issued on July 1, 1976 to set forth uniform administrative requirements for all federal agencies on "grants and other agreements" with higher education institutions. The idea was to regularize, standardize, and simplify. It took seven years to prepare, in endless negotiations between OMB and the agencies, between OMB and the Universities, between OMB and the Congress, and now all agencies must alter their regulations to conform with its provisions.

The result is a nightmare in some respects, with little or no meaningful changes in others. Campus and University anxieties have been aroused about a number of its provisions. For example, Attachment D of A-110 says that "interest earned on advances of federal funds shall be remitted to the Federal agency." The University argues it should be exempt from this provision because (as A-110 notes) it does not apply to state governments or their "instrumentalities" under the Intergovernmental Cooperation Act of 1968, and the University sees itself as such an instrumentality (what a peculiar word). Then there is Attachment G which could open up the possibility of endless financial reports, for it allows agencies to request more information to meet "legislative requirements" or because they believe the University's accounting systems are inadequate.

In January the UC Business and Finance Vice President estimated that A-110 would result in $1.6 million in additional costs to the University. Innumerable meetings, involving many campus officials, have been held in the past year to try to sort through A-110 and begin the process of adjusting to it. Hardly anyone seems to think it will do much good, and in several places it may do some harm. In addition to those mentioned above, there is Attachment O, with its discussion of "conflict of interest." Attachment O stipulates that no employee of the government can participate in a contract selection or award that is to go to an organization "with whom he is negotiating or has any arrangement concerning prospective employment." The target here is obvious - government employees who can take jobs with firms that do business with the government. But what about people on selection panels for proposals? This would seem to preclude them from serving on a panel when some of the proposals are from an institution to which they are considering moving. Another provision bars accepting "anything of monetary value" from "contractors or potential contractors." Some problems here:

1) If you serve on a panel as a Berkeley faculty member are you ineligible to review a proposal from any UC campus - since you are paid by a potential contractor, the UC?
2) Does this mean you could accept nothing from a "potential" contractor (another institution), such as guest lecture fees? And how potential is "potential"?

One other provision: "contractors that develop or draft specifications, requirements, statements of work, invitations for bids and/or requests for proposals should be excluded from competing for such procurements ." This could end Berkeley faculty participation in efforts to design government research programs lest that bar them from applying for the funds. An agency could not ask those who helped prepare requests for submissions to them submit proposals. While this does not happen often, it does happen at Berkeley. The legitimate possibility of a conflict of interest here makes this a difficult matter to resolve - but it was almost certainly not what OMB had in mind in inserting these provisions. There are also related difficulties in construction, for the campus turns to firms to assist in working out designs for new buildings or remodeling efforts and those firms naturally want to bid for the eventual project. Discussion of the conflict-of-interest provisions has already occupied some time at University Hall and, to a lesser extent, on campus, as the University considers a possible policy statement. Another feature of A-110 requires that "disciplinary actions" be provided for, in the event of violations, which is not something the University normally spells out.

Contract or Grant Provisions

We are still in the application stage of a project but getting close to the announcement of the award. Since the government is seldom swift in its responses to proposals, the investigator or the department applying for the award will have had time to look over the UC Contract and Grant Manual, which outlines the University policies designed to cope with government policies. It is one to two inches thick, a bureaucrat's treat. Among other things it details the functions of the Campus Research Office, which makes an excellent summary of the many facets of contract/grant administration. Among these functions are:

1) representing the campus in dealings with agencies.
2) assisting the campus on affirmative action, human subjects, and other government regulations.
3) maintaining a reference library on contracts and grants.
4) reviewing proposals, transmitting them to agencies.
5) submitting required reports
6) representing the Chancellor in contract and grant negotiations
7) analyzing the terms of contracts and grants offered by the agencies.
8) informing departments of their project obligations.
9) coordinating and negotiating project modifications.
10) coordinating and submitting project reports
11) handling closeout details on projects

Most of these (and there are many others) involve federal agencies. Taking the one listed as number 7), for example, analysis of agency proposal language is a constant preoccupation. The Manual warns that agencies will try to "impose arbitrary or unreasonably high cost contributions," and that attempts to push University cost sharing beyond 5% must be resisted. Pressures for more cost sharing originate in Congress, which has the impression campuses derive great collateral benefits from government sponsored research and thus should pay more of the costs. Dismay is the mildest of the reactions this attitude produces at universities. The Manual also calls for resistance to Federal pressures to avoid paying its proper share of indirect costs (more about this later), and states that clauses on patent rights that give the government either the rights or the power to determine equities "must be strongly resisted in every case."

A-110 will have an effect here in several ways. First, it states flatly that "the Federal sponsoring agency will also determine how the rights in the invention or discovery shall be allocated or administered ..." Not much in there about negotiating with the universities on this point. Second, A-110 has forced all the federal agencies to redo their regulations. Some don't want to; instead they slip in a clause saying the contractor will comply with A-110 as well as the agency regulations. University Hall has been fighting this,but it means keeping close watch on all of the various agencies. Others have rewritten their regulations all right, but have taken the opportunity to add provisions campuses found noxious in the past or to slip in creative new intrusions. Both University Hall and the Campus Research Office spend much time trying to keep the agencies honest .

For example, recently agencies have been trying to add regulations that require the University and the Berkeley campus to use only vending machines that dispense products in biodegradable packages, such as paper cups and aluminum cans. Or, in the Spring of 1976 NIH attempted to insert a clause that would make all University records (pertaining to an NIH contract) subject to the Freedom of Information Act of 1974 - that is, open to inspection by anyone. NIH argued that, under the Act, all "records to accomplish an agency function" were affected, and since NIH contracts were let to fulfill agency functions all systems of records pertaining to those contracts were covered. The University cried "foul" and succeeded in securing a ruling from the HEW General Counsel's office to the effect that such was not the intent of Congress and that the Act did not apply in this fashion. Finally, at that same time, at Berkeley's instigation, the University was beating off an Office of Naval Research effort to insert contract language requiring a research proposal to document the exact level of effort graduate students would put in on the project, and supply very precise estimates of faculty time that would be involved. Such precise estimates are impossible given the nature of research. The University was able to get these requirements modified, inserting an"approximately" here and there.

In threading through the contracts-and-grants labyrinth, one can turn for assistance to the National Association of College and University Business Officers (NACUBO), which also puts out a manual on the subject - approximately 400 pages in size. It elucidates the complexities relating to costs and procurements (discussed later) and points out that in the government's eyes there is virtually no difference between contracts and grants; the applicable rules are much the same. It also mentions the Christian Doctrine: "clauses required to be included in contracts by regulations will be read into contracts even if they are not actually incorporated." It is unclear just when and how this applies, and with good reason for if stringently applied it would obviate the necessity to have contracts at all, or the contract could simply refer the campus to any and all regulations the agency has adopted.

The NACUBO manual points out the government's view that an individual employee can commit the government only in accordance with his expressly delegated responsibilities. Hence institutions are always taking a risk that the government will later claim an agreement invalid on grounds it was beyond the power of the one who negotiated it. Other unusual features of contracts include the government's power to make unilateral changes, to terminate at its convenience, to have disputes between the parties resolved within the sponsoring agency, and to compel and conduct an audit of the other party - all of which would hardly be found in contracts with private firms. NACUBO argues that these kinds of provisions stem from the unequal bargaining position of the two parties. This is a point worth considering, for it may explain a good deal in the relationship between the government and higher education.

Many regulations and laws to which the campus is subject are encapsulated in the "boilerplate" inserted in contracts and grants. The NACUBO manual describes many standard clauses. One can also examine the basic umbrella agreements the University has signed with federal agencies (which run many pages in length), to simplify negotiation of specific contracts and grants. And there is HEW's General Provisions For Negotiated Cost-Reimbursement Type Contract with Educational Institutions which the University would like to amend a bit and make the umbrella agreement for its dealings with all HEW agencies. The following review of standard contract clauses is based on these sources.

Equal Opportunity

In the HEW General Provisions, the equal opportunity clause binds the University (and the campus) to not discriminate, to take affirmative action, to notify labor unions of its commitment, to comply with Executive Order 11246 plus Department of Labor regulations, and to furnish all required information. The clause also provides for termination or suspension of the award for non-compliance. And it requires that similar provisions be inserted in all subcontracts and that the University "will take action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions ..."

The University's Basic Agreement with NIH has provisions in its equal opportunity clause under which the University can appeal a decision to terminate an award. The appeal goes through the Office of Civil Rights, which makes the final decision - an illustration of how disputes between the two parties are ultimately resolved by one of them.

Similar clauses on the Handicapped are now being inserted in contracts, with parallel reporting, notification, and subcontractor requirements.

Convict Labor

Contracts have a clause stipulating University agreement not to employ persons imprisoned at hard labor. This dates back to Executive Order 325A, May 18, 1905! It does seem rather out of date, although the University did employ convicts for a few years after the war in construction work at one of its isolated research stations,(The things one learns in a study such as this.)

Buy American

This provision goes back many years to the Buy American Act, under which preference is to be given to American products unless the goods are for use outside the US, aren't sufficiently available in this country,or cost too much. The decision on whether sufficient American goods at a reasonable price are available is left to the sponsoring agency, not the University. It is reported that this adds considerably to the cost of some projects.

Preference for US Carriers

These provisions don't always appear in contracts. A preference for American ships is an old one; more recently some clauses have turned up requiring preference for American air carriers in shipments.

Consultants

Contracts include a clause requiring prior written approval of the sponsoring agency if any "employee of the Contractor" is to be hired as a consultant or if the cost of any consultant will run over $100 per day or his services last more than ten days. HEW has been the prime mover here. This is aimed directly at investigators putting colleagues on the payroll (one form of abuse is when two faculty members have a reciprocal hiring arrangement using their respective awards). There are occasions where this has happened at Berkeley, but not at all frequently. Nevertheless Berkeley recently came under fire from federal auditors for inadequate compliance on consultants, so the campus designed and implemented elaborate new policies on consultants during the past year. The regulations and the new campus policy on faculty consultants now forbid hiring someone from the investigator's own department and require that any consulting be in addition to the faculty member's regular load. (One discomforting effect is that The Vice Chancellor, as a professor in the Law School, might not be able to hire any legal advice on campus problems from that school. The new policy on independent consultants is also much more restrictive, and requires more documentation than in the past to prove the necessity for a consultant and demonstrate that selecting one was done on a competitive basis. Both took a considerable amount of time and effort to work out. Increasingly, the state legislature is adding conflict of interest provisions to its legislation; primarily these apply to administrators but they are tending toward extension to faculty. They will also restrict consulting in various ways.

Utilization of Small Businesses

Contracts contain clauses under which the University agrees to "accomplish the maximum amount of subcontracting to small business concerns." There is also a provision to this effect in A-110 Attachment O.

Utilization of Minority Businesses

Clauses are always inserted that require the University to use its "best efforts" to utilize minority businesses - defined as having 50% or better minority group member ownership. Discussion of the effects of this provision on procurements was included earlier under affirmative action.

Utilization of Labor Surplus Area Firms

This a complex clause. The idea is to have the University turn to firms in areas of high unemployment or underemployment. The trouble is that in complying the University must make use of a seven category order of preferences, in which firms are classified as either "first" or "second" preference, and in which the University is simultaneously to try to utilize small businesses. The categories are by no means precisely defined, and the entire clause is almost certainly too complex to be effectively complied with or enforced.

Veterans

The clauses on veterans are nearly always extensive and apply to both disabled and Vietnam-era veterans. Under them the University agrees not to discriminate and to take affirmative action. It also agrees to list suitable job openings with state employment offices, and to file reports with those offices at least quarterly on the number of veterans hired. The HEW General Provisions call for similar reports to be filed with the sponsoring agency. HEW makes this applicable to all jobs under $25,000; earlier agreements with other agencies have used salary figures of $18,000 or less.

Travel

Contracts always require prior approval of the sponsoring agency for travel outside the US and Canada. Similar approval is required for domestic travel amounting to a total cost of $500 or 125% of any figure specified in the contract.

Federal Reports Act

Under this provision, pursuant to the Act, any plan, questionnaire or survey instrument that will submit identical questions to ten or more persons, or to any number of Federal employees, must first be cleared by the Office of Management and Budget, through the sponsoring agency.

Walsh-Healey Public Contracts Act

This is an odd clause which applies to contracts of over $10,000 for the manufacture or furnishing of materials, supplies or equipment. The Act requires the contractor to pay at least the minimum wage, not use child labor, provide proper safety conditions, etc. The oddity is that it doesn't seem to apply to educational institutions, except on rare occasions, and many of its provisions are covered by other federal or state regulations. No one here seems able to explain the reasoning behind its inclusion, and in fact it is not easy to find out what the Walsh-Healey Act says.

Overtime

Clauses that refer to the Contract Work Hours and Safety Standards Act require that workmen, trainees and guards be paid time and a half for overtime, defined as anything over forty hours per week. Often this must be applied in all subcontracts as well. At one time, similar provisions were applied under the Fair Labor Standards Act until a Federal district court voided it (as unconstitutional) with regard to state and local government employees. In addition, contracts usually also contain fairly elaborate provisions limiting the kinds of work or situations for which overtime can be paid, so as to hold down government expenses.

Human Subjects, Animal Subjects

Regulations on human and animal subjects are discussed in detail in other sections of this report.

Standards of Work

One of the boilerplate items is a brief contract provision stating that the work to be performed will be up to "high professional standards." While no one gets very excited about this, it is considered a meaningless provision since no definition of such standards is provided (or could be). Yet it lingers on.

Davis-Bacon Act

Under this Act the University must pay the prevailing wage in the area for each class of mechanics and engineers. This clause reflects and sustains the interests of unions, for it is their wage agreements that typically determine what is "prevailing." The campus has noticed that this increases its costs; it has some projects for which cheaper labor could be obtained in Berkeley were it not for this limitation.

Government Property

These clauses are always quite elaborate. The management of government property is discussed in another section of this report. It should be noted that contracts typically set a limit ($200, $300, $500, sometimes $1,000) above which any purchase requires prior agency approval. Complaints about this are universal, for the approval can take a good deal of time and paperwork. Campus officials frequently propose raising the applicable limits in order to eliminate prior approval for the biggest part of Berkeley's purchases. (NACUBO has also campaigned for this.)

Agency officials resist, to the extent of agreeing only to moderate increases if any.

Royalties

It is customary to require that all royalty payments of over $250 be reported to the sponsoring agency. The goal is obviously to prevent excess royalty payments, but in that case why not require prior approval? No doubt there is an excellent reason.

Clean Air and Water

Where contracts are for over $100,000, the University must comply with section 114 of the Clean Air Act and section 308 of the Federal Water Pollution Control Act, which refer to inspection, monitoring, reports, and the like. It also agrees to use its "best efforts" to meet air and water quality standards in facilities used under the contract, and to insert the provisions of this clause into its subcontracts. These are relatively new requirements and it is still uncertain what the final effects will be.

Examination of Records, Inspections, Audits

Various clauses in the contracts provide for access to all pertinent University records by the Comptroller General and the sponsoring agency, typically for up to three years after the contract has expired but sometimes, as with the Office of Education, up to five years. Other clauses always reserve for the government the right to inspect the work being performed and the premises "at all reasonable times."

Access is also reserved for audit purposes, and the University is required to maintain the necessary books, records and documents and make them available on request. All of these provisions on access must also be inserted in subcontracts.

Subcontracting

The government insists on knowing a great deal, in advance, about proposed subcontracts and exercising control over them. For a variety of kinds of subcontracts agencies are to receive, among other things:

1) a description of what the subcontract is for.
2) who it will go to and how they were selected. The University is to use competitive bidding to the extent this is practicable.
3) the proposed price, the University's price analysis, and the subcontractor's pricing data.

4) a description of the type of subcontract to be used
5) a description of the subcontract price negotiations that took place, in considerable detail

All this is so the agency may give its prior written consent to the subcontracts. Another provision that may be inserted allows progress payments to small business concerns to facilitate making use of these firms.

This is an excellent way to generate paperwork and delay, yet it is hard to see how the government benefits to any great extent. The University and the campus have every reason to seek to hold down costs and secure reliable subcontractors, and must operate under similar provisions set by the state government. Unless one is prepared to argue that federal officials are better equipped to make such decisions, the requirements here are a bit worse than useless, particularly since federal agencies must rely entirely on the data submitted by the University and the campus.

Termination

As noted earlier, the government always reserves the right to terminate a contract whenever it is determined that this "is in the best interest of the government ." The rest of the provisions in these complex clauses refer to the technical details involved in a termination, including arrangements for payments for work performed.

Printing

These clauses bar doing any printing, beyond certain limits, under the contracts. For instance HEW would confine printing to less than 5000 copies of any one page or of 25,000 copies in total of all pages - a page being defined as "one sheet, size 8 by 10 1/2 inches, one side only, one color ."

Key Personnel

When the government is paying for the services of particular investigators, any shift in these personnel must await notification of and justification to the government so that the agency may give written permission. Sometimes similar restrictions on changing the nature of what is being investigated are also included.

Disputes

As mentioned earlier, clauses on disputes assign final decisions to the agencies. Any appeals go from lower agency decisions to higher agency officials, unless, of course, the University wishes to go to court. A review of one dispute and the University's appeal is provided in the discussion of indirect cost matters later in this section of the report.

Rights in Data

The government has an interest in being able to use materials and data that it paid to create, so clauses are always included under which the government gets permission to use any data irrespective of any copyright or license the University obtains. Once or twice, agencies have attempted to define their "rights in data" to include the right to limit release of information from a project. The University resists all such efforts, and is much happier with clauses that are often inserted which encourage wide dissemination of research results.

Overhead Rates

Lengthy provisions in each contract refer to the fact that the government and the University must agree on a final overhead rate applicable to the contract, based on a University-proposed rate submitted sometime after the close of the fiscal year. In the meantime, the University is paid under provisional rates. These negotiations are a source of great friction and endless controversy. The subject of indirect costs is reviewed in another section of this report.

Patents

This has also been a source of some friction over the years. Once again, the government is interested in being allowed free use of inventions which it paid to develop. The University is interested in retaining patent rights and the considerable income that may result; University income from patents is now running over $1 million per year. Provisions on patents lay out the two sides' rights, and also usually require yearly reports on each invention, a detailed report on each invention, and a report at the end of the contract listing all inventions. Copies of applications for patents, and of patents received, must also be sent to the sponsoring agency. Similar provisions cover applications for foreign patents.

There are still other clauses dealing with such matters as notifying the government of delays in performance, paying no gratuities to government officials, the University's obligation to take out the necessary insurance, etc. There are also provisions peculiar to one agency, such as ERDA requirements pertaining to rules on trips to Communist Bloc countries or of Communist country aliens visiting ERDA - funded projects and facilities (generally ERDA approval is required). Contracts of over $100,000 will require that the University disclose its cost accounting practices and comply with those of the Cost Accounting Standards Board. One University lawyer reports that absolutely no one seems able to understand and interpret Board requirements, here or in Washington.

It is difficult to assess the costs associated with administering these provisions of contracts and grants, for the effects are felt throughout the campus on every federally funded research project. The University maintains a Contracts and Grants Office, and roughly 60% of its work can be clearly labeled as administration pertaining to federal awards - which would be roughly $104,000 (in FY 1975-76). Computing Berkeley's share is impossible. On one side is its role as one of the major recipients of awards in the system. On the other is the fact that the Campus Research Office does far more of the campus chores on awards than would be true of other campuses. Simply using a 1/9 figure comes to $11,500. Added to this is the cost of the Campus Research Office - the budget for which was $196,745 in FY 1976-77 and involved 11 1/3 FTE. Of this money, $71,236 came from the government in the form of indirect cost funds. Thus the campus resources in the office came to $125,509.

This seemingly endless recitation of contract provisions was undertaken as the best way to forcefully illustrate the range of the government's regulation of the campus via the mechanism of financial awards. A great many of the provisions bear little or no direct relationship to the work that is to be performed, but are piggybacked onto the research award to serve other purposes. They are included to meet the interests of unions, of overseas shippers, of minorities, of small businessmen, of the unemployed, of the handicapped - of just about everyone but the universities. The associated costs can be recovered, if at all, only through the indirect cost payments and, as we shall see, the government strongly resists paying what institutions regard as a fair rate.

A significant element in a great many of the contract clauses is that the campus not only undertakes to live under certain constraints but to enforce them on subcontractors. In addition to the costs that this imposes, there is a more fundamental concern here. Is it wise to convert academic institutions into extensions of the federal government in this way, to make the campus legally responsible for enforcing provisions of federal law? This is not an issue raised very often in discussions of the federal-higher education relationship. Concern about institutional autonomy typically turns on financial dependence and regulatory intrusion. But what is the loss of autonomy entailed when the campus is converted into an agency of the state vis-a-vis subcontractors, empowered to look at the books, check on affirmative action efforts, impose requirements with respect to pollution control, and withhold funds for non-compliance?

Finally, many contract provisions seem only marginally workable or meaningless. Why, then, do they persist? Almost certainly it is due to bureaucratic and lawyer-like caution, inserting all sorts of language to try to cover every conceivable contingency. Nothing like all contingencies are, in fact, covered. Instead there is a proliferation of language the campus might trip over. And there are endless opportunities for agencies to change a few words here or add a phrase there in ways that harm campus interests but slip through undetected in the midst of pages and pages of boilerplate.

The Renewal Application

Up to this point, we have been discussing the application process for a contract or grant as if it was for the initiation of an award. Equally common is the renewal application, where an agency accepted a project proposal for work to take several years, and has already funded it for at least one year. While the agency is committed to seek to sustain that project financially it cannot sign a multi-year contract guaranteeing the funds, for it is dependant on annual appropriations from Congress. Some projects will clearly run five years or more; some Berkeley projects are twenty years old. Nevertheless, each year a new application for funds must be submitted, complete with a budget. In some cases (NIH) the renewal application must include an estimate of probable spending for the current year, a rather silly requirement since everyone tries to spend all of the money they have. In others, one must list all equipment purchased in the current year.

Reactions to this vary on the campus. Some investigators find this a reasonable requirement in view of the way the government works. They stress that for many long term projects the renewal is pro forma; once an agency has accepted a project it makes every effort to fund it as planned (assuming the work is going properly) and almost always can do so. Thus the reality is long term funding even though the legal situation is year-to-year funding.

However, most investigators and administrators on campus find this system to be unfortunate, for several reasons. If the agency sees the project as worthwhile, why burden the investigator with an annual resubmission? After all this takes time and paperwork, and draws the investigator away from his research for what is, in many cases, a foregone conclusion. As to the time involved, one administrator who is also a principal investigator notes that his last renewal proposal involved effort spread over three months. Another major investigator mentioned that his most recent progress reports and renewal proposals came to 450 pages single spaced and ate up six months of his time. Others emphasize that not every award is renewed, or that some are renewed only after considerable delay. This applies to projects not at the higher levels in terms of agency priorities. Some can be certain of funding, but this often applies to only the top 30% or so in an agency list. Those not ranked so highly must wait and see. Naturally the agencies are none too quick with notices of termination; the actual notice often comes out four months after the agency knew there would be a problem, usually only one month before the current award runs out, and occasionally even after this deadline. In one case during the past two years, a Berkeley researcher received a verbal notice of renewal, then received a notice of termination of the grant in July 1976, but kept working with some agency encouragement that the funding would come through. Eventually approval of funding did arrive, but so late in the year that the agency made it applicable as of July 1977, not retroactive to July 1976. The cost to the campus for that interim year - $55,200 in research expenses.

Even where the agency has decided to renew an award, written notice may not come until after the current award has officially ended. Often Congress is to blame, with its elephantine appropriations processes. Sometimes agency inefficiencies compound the problem. In any event, lawyers, accountants, and bureaucrats, both in Washington and at Berkeley, have ample reason to mistrust verbal renewal assurances from agencies. Thus without the written renewal, the investigator finds he is not authorized to spend any money on his research - such as to pay his lab assistants. Does this happen often? The following table from the Campus Research Office records for 1976 indicates that 1/3 of the renewals are late! Some agencies are always late. And 4% of the awards were over three months late.

UNIVERSITY OF CALIFORNIA - BERKELEY CAMPUS

TABULATION OF LATE FEDERAL CONTRACT/GRANT DOCUMENTS (RENEWALS/CONTINUATIONS) RECEIVED AND ACCEPTED DURING CALENDAR YEAR 1976

AGENCY	TOTAL # AWARDS	TOTAL LATE AWARDS	% LATE	NUMBER DAYS LATE**						
				1-15 DAYS	16-30 DAYS	31-45 DAYS	46-60 DAYS	61-75 DAYS	76-90 DAYS	OVER DAY
AID	1	1	100.00	-	-	-	-	-	-	1
Air Force	8	8	100.00	5	-	1	1	-	1	-
Army	9	5	55.56	1	3	1	-	-	-	
CSA	3	2	66.67	1	-	-	1	-	-	-
DOT	2	1	50.00	-	1	-	-	-	-	-
EPA	3	0	0	-	-	-	-	-	-	-
ERDA	7	6	85.71	-	3	1	1	-	1	-
HEW	207	24	11.59	12	9	-	2	1	-	-
LSC	2	0	0	-	-	-	-	-	-	-
NASA	37	16	43.24	6	3	1	-	3	1	2
Navy	31*	22	70.97	1	3	1	3	2	3	-
NSF	100	41	41.00	18	12	6	2	1	1	1
USDA	15	12	80.00	2	1	3	2	2	-	2
USDC	4	3	75.00	1	1	-	-	-	-	1
USDI	7	2	28.57	-	1	-	1	-	-	-
VA	2	1	50.00	-	1	-	-	-	211 -	-
TOTAL	210 438	144	32.88	47	38	14	13	9	7	16

These "gaps" between the end of an award and its renewal are a source of endless difficulties for the campus. Here are some of them:

1) Since investigators know gaps may well occur, they take steps to protect themselves, which involves more work. They submit renewal applications very early. Since this is no guarantee of success, many also submit multiple proposal applications to cover themselves. One investigator reports that he submits two or three proposals to other agencies along with his renewal application, just to be safe, and tells all the agencies involved what he is doing. He has never failed to get his renewal (in twenty years) but puts in all the additional work anyway because of the troubles others have had.

   Others deliberately secure multiple, overlapping funds for the same project, rather than rely on a single grant. Then if the renewal is held up on one award, the entire costs are transferred for a while to the other(s).

2) If there is no other funding available, then the investigator may be forced to temporarily suspend operations, laying off his employees. This doesn't happen often, because the results are so drastic that it cannot be allowed to. After all, the "employees" involved are graduate students, or postdocs, or valuable technicians. These people have to eat, have families to support. The students and postdocs often have their personal research projects (and thus their professional prospects) linked to the investigator's program. They might be forced to leave the institution. At the least, they have to move to some other work, thereby breaking up a research team the investigator has carefully assembled. Other effects include the inability to buy equipment and supplies to keep the project going, and the good possibility that much of the progress of the research to date will be lost. With such an unhappy outcome looming, it is not surprising something is done. Alas that something almost always means more trouble.

3) One thing often done is that the researcher shifts the people affected from the project suspended in the gap onto one of his other projects and has them work on that. This at least keeps his team together, but it still means that work on one project stops, to be restarted when the renewal comes in, which is not an ideal way to do research. It also means the other project gets a sudden infusion of people, and expenses, which lasts only a few weeks, thereby throwing the timetable and

budget for that project out of kilter.

4) Another option, then, is to put people on another project for funding purposes but let them continue working on the "suspended" project (and do the same with supplies and equipment), and then transfer those costs to the renewed award when it comes in. This is very frequently done, but how the problems multiply! First, to shift people and expenses to another project and back takes paperwork. Second, when the renewal comes through, the agency may not make the money retroactive to the date the old award ended. When the government was responsible for the gap in the first place, this should be impermissable. It is not, and so agencies do it. (Some agency renewals are never retroactive, others are always so.) Now there is no money in the renewal award that can be used legally to cover the expenses of the gap. This invites transferring people from another project onto this award to use up an equivalent amount of funds - one of those places where something illegal seems only fair. Also, the gap expenses have piled up on another project and if this means overdrafts have occurred, as is often the case, then those expenses (and the people causing them) have to be shifted somewhere else - more paperwork, and more shady bookeeping involved. At the same time, the renewed award has more money in it than the project needs, several weeks of project expenses having been covered elsewhere. As one lab business officer puts it, a "vast spending spree occurs" to use that money.

Third, the agency may renew the award but decide to put it under a new project or accounting number. No one knows why the agencies do this; one possible reason is the desire to break big projects into what looks like lots of little ones so as to make them less conspicuous to Congress. Whatever the reason, it results in serious problems because for accounting purposes the renewal now becomes an entirely new account. This has much the same effect as the preceding case, in that there is no ready way to transfer the costs that have been piling up onto the renewed award. In these cases, and others, cost transfers have been made anyway, under the argument that the objective is to keep the research going and all that is involved is shuffling among different pieces of the same research project. Which brings us to the fourth difficulty; increasingly, government auditors are taking a very hard look at all such cost transfers. They are demanding more documentation on the transfers, and they are disallowing more. This means greater difficulties for investigators, more work throughout the institution, and the imposition of stricter controls over transfers. More comment on this is included in the discussion of audit problems, later in the report.

5) One other solution is to have the department or the campus pick up the tab for gap costs. Departments rarely have enough money for these purposes. So, under considerable pressure from departments, the Campus Research office has just recently been authorized to permit advance of central administration funds to cover temporary expenses when there is strong but not written, evidence that a project will be renewed. Thus some formerly flexible central funds are now tied to certain expenses entirely because the government cannot meet its deadlines.

II The Implementation Stage

In the contract and grant cycle we are now at the point where an investigator or a department (lab, institute) has successfully negotiated the course through which a proposal must pass, has submitted the new proposal or the application for renewal to Washington, and has received the award. Now come the real regulations - in the contract, in the agency's specific requirements, in the government procurement manuals, in those set by the University and campus as indispensible for compliance with the Federal ones. How do all of these regulations affect the investigator and the campus on a daily basis during the lifetime of each contract and grant?

Hiring and Employment

Most sponsored research is a team effort; to do the research one must have assistants. To operate a unit with a great deal of extramurally funded research takes people to handle the administrative details, the management of finances, and the paperwork. The government affects the numbers of people required, their workloads, and the process by which they are hired.

In terms of the numbers hired, federal requirements contribute mightily to a constant tension between what good administration would require and what the various elements of the campus feel they can afford. Full discussion of this point must be deferred until after we review the workload now imposed by regulations, but the central point can be stated here: The increases in staff and faculty time devoted to managing contracts and grants have been substantial but not sufficient.

Turning to the hiring process, one obvious federally-induced influence is affirmative action. This was discussed in detail in an earlier section so comments here can be brief. Because of affirmative action it takes more time and more paperwork to hire anyone, usual estimates being two to four times as much. Investigators are annoyed by affirmative action when it comes to research personnel because they are either looking for someone with very specific skills or because they see the job in terms of assisting a student's education (by giving valuable training or financial support, or both). The jobs are for a much narrower range of people than is compatible with affirmative action. What results is formal compliance while hiring who they wanted in the first place. Thus they do not see affirmative action serving any particularly useful purpose or having much of an effect, other than on their workloads. In hiring departmental staff, affirmative action has often become a victim of its success. Over the years, in many departments, it has helped bring about a noticeable shift in the ethnic composition of the workforce. Now that this has occurred, the affirmative action paperwork, goals, and timetables can seem petty and useless.

One other burdensome aspect of affirmative action mentioned by several colleges and departments is that they are often asked to supply data on the ethnic or sexual composition of their workforce. Sometimes this is for studies being conducted on campus or in the University, other times for probes by external agencies. This can also occur if the department is the subject of a complaint alleging discrimination, as discussed earlier.

Much of the hiring on some projects is of students; government regulations and students don't mix. Generally speaking, government agencies set documentation requirements on time and effort that make a lot more sense if the employees come in and do research in a nice tidy way, 8 to 5 for five days a week. They prefer neat work schedules as part of program proposals; the government really prefers to buy hours and weeks, not research, because hours and weeks can be measured. But students don't work this way. They have shifting priorities, drop in and out of projects, work erratically within the intermittent press of coursework and exams. Research itself is this way, and faculty are too. This can make hash out of efforts to fulfill the record keeping requirements, particularly since everyone involved is task oriented and not at all sympathetic to the time orientation of federal officials. Even a business office that keeps the accounts rigorously up to date on a monthly basis still gets caught periodically when an investigator shifts the level of effort of his employees temporarily (such as putting them on full time for a week or two rather than half time) to meet a deadline, or take advantage of a lull in his schedule or theirs, or follow up on an engrossing development in the research.

In some labs, many of the employees are foreign students or post-docs, embroiling everyone in the complexities of alien control regulations, described elsewhere in this report. Or the assistants may be funded by traineeships. Unfortunately notice of trainee awards often comes too late in the academic year to allow adequate recruitment of able people for a project to begin in the summer or fall, good prospects having already made other arrangements so they and their families are assured of eating regularly.

The Congress, in its wisdom, adopted new strictures on training grants (National Research Service Awards) this year that limit support to three years, require either three years of public service or repayment of the money (with interest) and appear to make the money taxable. The IRS view is that the student is really being paid for services (to be) rendered, which is taxable income, even though the old training grants had a $300 per month exemption. Being hard nosed about it, IRS decided in 1977 that 1976 income was taxable. At least five departments have such awards, and angry students. Much student and department time has been consumed by discussions, explanations and protests, with the final decision still in doubt. An added irritant is that the campus can't make payroll deductions for these people because they aren't employees! They must either save their tax money or make quarterly payments.

The gap problem, referred to earlier, enters in here as well. Project employees are reluctant to pass up other opportunities on the promise the renewal will eventually appear. Someone dutifully sends them a termination notice as the last day of the award approaches, telling them just where they legally stand. These people have no financial reserves if the agency fails to come through; if something else comes along they may take it.

The impact of the rising administrative workload associated with contracts and grants cannot be understood without reference to the fact that, for reasons discussed below, authorized increases in departmental staff have been very limited. Departments seek more help; the state, University Hall and the campus administration offer sympathy but little else. Where staffs are increased, the expenses are often partially bootlegged out of a contract or grant in a fashion of dubious legality. Where the staff can't increase,the workload on it does instead. This requires upgrading positions to match the increased responsibilities involved and higher qualifications needed. Thus either the staff grows, and costs more money, or it stays the same size, and costs more money.

In Bacteriology and Immunology both have happened. It now takes one part-time and four full-time employees to handle the office workload that was carried by one part-time and two full-time employees eight years ago. At least half of the increase is ascribed to federal regulations, mainly relating to awards. And the staff positions have been upgraded as well. Entomological Sciences has just laid off a secretary in order to hire a budget clerk, to handle the more elaborate record keeping now associated with each contract and grant.

Financial Record Keeping

The financial record and reporting requirements draw more fire from those associated with research than any other aspect of federal regulations. Complaints are delivered with gusto, and the chorus has swelled in volume in the past few years. The refrain to be heard is as follows.

Projects are typically designed to last more than one year, and are submitted to an agency and approved as such. Often a number of an investigator's projects are in fact segments of a large research program, and the funding agencies well understand this. This leaves the investigator a number of pots of money to draw from to help sustain what is, to him, an integrated research effort. There is never enough money, and he wishes to make the most of what he has. A research team (or a set of teams) has been built and part of the investigator's responsiblity is to nourish it so that the sustained research effort can continue. Therefore, the investigator wishes to transfer expenses to where the money happens to be at the moment. Grant X is running low, but there is plenty of money in Grant Y, so let's shift to paying employees and buying materials out of Grant Y for a while. He also wishes to use all of the available money. There are some funds for equipment left in Grant X but no more need for equipment in that project, but over in the project funded by Grant Y a particular piece of equipment is needed. Solution: pay for the equipment by charging it to Grant X before it runs out and the money has to go back to the government. After all, these individual projects are really facets of that large program of research being conducted. Pushing the money around like this is not waste,for the money is going for research, and the research is much like what the government wanted.

These are cost transfers. There are other kinds, some mentioned later, but this is the general idea. For years, investigators and business officers have managed their accounts in this fashion. The government knew about this, more or less, and did not object. In fact, agencies sometimes encouraged these practices; they wanted all their money spent before going to Congress to ask for more. Thus contract and grant accounts acquired some peculiar features. One was a flurry of spending near the end of the award, particularly on equipment. Another was a large number of cost transfers involving people being shifted from one grant to another, sometimes for only a month or two. (This was one of the ways one lived with the gap problem.) These cost transfers might occur in May, but they could refer to events that supposedly took place in December.

The people in the agencies who give out the money understand all this and for years their view prevailed. These are people quite knowledgeable about research and higher education; some are ex-faculty members. Their payoff comes in the form of successful research being undertaken, and they understand the investigator's viewpoint. But they are not the same as the people charged with supervising how the money is spent. Those people think in terms of prudent fiscal management, in which the government gets its money's worth out of every dollar. They don't necessarily know anything about research; they do not see the investigator's point of view. And their day has come.

Exactly why their day has come isn't clear. The government's mood began shifting a bit in the 1960's with some minor scandals traceable to institutions' moderately loose way of doing business. Then there was a shift in auditing responsibilities, in 1969-1971. Agencies do not each audit their awards; instead, they assign auditing to one agency, on whose findings they rely. For years it was DOD, but it now became HEW and HEW seemed compelled to save more money. Perhaps it was simply reflecting the feelings of Congress, which had begun to turn against higher education and research. Also contributing may have been the general cry for "accountability" in government. Whatever the reason, the HEW auditors have been harder to live with. We might also mention the increasing suspicions about science, doubts about its ability to solve our problems, as part of the shift in the government's attitude.

How has this affected Berkeley? For one thing, the financial management people think of each award,and each year of it, as separate and distinct. The pot of money in Grant X is only for that project and only for this year; it should be spent throughout the year, not at the last minute. The expectation that spending at the last minute will feed into next year's renewal is improper; renewal is irrelevant to this year. Any cost transfers, in theory, are justifiable only to correct mistakes and they should be carefully documented. Otherwise the government's money might be spent on almost any work the investigator had in mind, buying any equipment he wanted, hiring who he pleased, irrespective of relevance to the project the government thought it was buying.

Not much in there that resembles that old cosy partnership built on mutual trust. Some people at Berkeley welcome this, in a way, as forcing the institution to keep the government at arm's length and view it with the suspicion it deserves. Those not so tough minded about all this lament the passing of a unique relationship.

The effect on the investigators and their administrative superiors is that they face steadily growing requirements to record and report on all their activities on contracts and grants, as well as increasing restrictions on those activities. Here is one catalog:

1) cost transfers now must be documented in great detail. In the past these transfers were often handled by department secretaries and Lab business officers alone. A phone call and a follow up memo would be sufficient authorization and documentation. Now it takes justifications, signatures, copies of budget pages, and several memos to do the job. And it must be done within thirty days of the transfer. Maybe this will force faculty to be more responsible, but some see it as more likely to proliferate the number of pieces of paper faculty or chairmen sign with no idea what they mean.
2) an investigator must keep far better track of exactly where he stands on each of his awards, on how much money is left in each. This means

departments, working with Accounting, must keep better records of exactly what has been spent, usually by the month.

3) investigators and departments must monitor closely the accumulation of money in awards for vacation and sick leave for employees. If someone fails to take a vacation during the grant on which he is employed, he can simply be transferred, with the funds accumulated for his vacation, onto another award and the funds spent there. That way the money isn't lost at the end of the year. But departments and investigators have sometimes failed to keep proper records and put aside the necessary funds from the original award, so that after the transfer the vacation is paid for out of the new award instead. Now this is frowned upon. Arguments that this is simply spending money the government owes to someone who earned it, just shifting it to another account, have no effect.

4) Departments must now be much more thorough in allocating the costs of common services among the various awards. Instead of a single phone bill, the department turns to separate ones to better recharge the cost. Logs must be kept on duplicating services. If a staff member works overtime, that must be allocated among the awards. The time of office people who work on awards must be parcelled out accurately in the records. Sometimes this can be done fairly accurately, but it takes time. But often it really cannot be done accurately - the precision dutifully supplied in the reports called for is spurious - so there is no satisfaction in doing work that is literally meaningless.

5) the campus was forced to adopt new regulations, in May, to prevent large purchases near the end of an award. Under this policy, purchase requisitions have to be submitted at least 120 days in advance of the end of the year. The idea is to have the purchase completed and the item(s) in use at least thirty days prior to the end of that budget. Requisitioning of supplies is also excluded during the last thirty days. Exceptions are provided for, but only when the investigator submits an explanation of how the late purchase benefits the project and why the purchase wasn't initiated sooner. He must also have the department's commitment to pay for the item if the sponsor subsequently refuses to, a

pretty stiff requirement. Finally, exceptions will be allowed where it appears "certain" a contract will be renewed.

Much grumbling has ensued, in part because the possible exception for continuing awards wasn't made clear at first. Some investigators argue that it will merely replace the end-of-the-year spending surge with a 120-days-to-the-end-of-the-year surge. Others contend that purchasing further in advance invites less accurate, and thus more wasteful, purchasing, thereby conflicting with the general federal objective of spending money wisely. The policy expressly discourages stockpiling, which some departments argue is the best hedge against inflation. In response, the Associate Vice Chancellor for Business Affairs has forcefully pointed to the current government pressures on the campus to be far more stringent on procurements as well as other matters.

Another review of these burdens is contained in a detailed study of budgeting and financial reporting at the University of California published in June 1976 (the Trudeau-Gross Report).[8] It finds agency provisions on expenditures to be inconsistent, often going beyond Federal Management Circular 73-8, "Cost Principles For Educational Institutions", which is supposed to standardize these matters.[9] As a result, each UC campus confronts numerous constraints associated with each award budget:

the cost principles of FMC 73-8, Federal Procurement Regulations, NASA Procurement Regulations, and other agencies' regulations;
the cost provisions of that specific contract or grant;
the award's budget categories;
any special agency provisions on expenditures for restricted items;
the time limitations in the award budget;
agency provisions on rebudgeting or on prior approvals that are required to spend part of the money.

The report is particularly interested in rebudgeting - the shifting of money from one category to another to meet unforseen circumstances and expenses. Some agencies, like NASA, have required prior approval only for a few categories (travel and equipment) leaving the institution free to rebudget other money "in whatever pattern most benefits the project". The Public Health Service has an "institutional approval system" that relies on the discretion of instututions. But other agencies, like NSF, are more restrictive. This is costly because the nature of research makes rebudgeting quite common; having to seek agency approval greatly extends the work involved. The Office of Education requirements are among the most confusing and difficult, and HEW requirements are described as a "maze."

The Report also investigated agency financial reporting requirements and found great variations. The following summary for the University concerns agencies for which Berkeley does a great deal of work:

> Reporting Requirements of Various Agencies
>
> NSF - In addition to the monthly advance request under the cash advance program, a report of expenditures, by individual grant, is submitted quarterly. The report compares the current quarter's expenditures and expenditures through the previous quarter with the amount of the award. Upon completion of the project, each grant must be reported on a "Budget and Fiscal Report" form comparing expenditures with the budget by object classification in a breakdown more detailed than for most granting agencies. For salaries and wages, although eight budget classifications are shown on the form reporting is required for only two of these, senior personnel and other personnel. Computer costs and publication costs are also shown as separate items. Formal expenditure reports are not required each year but only at the end of the project.
>
> ONR - Expenditures are made under contracts only. Public vouchers are submitted monthly via the University's cognizant Federal audit agency at Berkeley. The final voucher submitted upon completion of a contract gives cumulative totals.
>
> AF - Financial reports for contracts are similar to those of ONR. For grants, the format of the "Grant Fiscal Report," required annually as for DHEW agencies, is arranged in ten direct cost categories and an indirect cost category. Of these, three are breakdowns under the salaries and wages section. Budget itemization is not shown on the form. Therefore, no comparison is presented between the budget and the actual expenditures.
>
> NASA - A report of current quarter and cumulative expenditures by grant is included in the cash advance request submitted quarterly to NASA by each campus. A final cumulative expenditure report is submitted to NASA by each campus upon completion of the work under each grant. This report is in a format unique to NASA and gives only the cumulative award amount, the cumulative expenditures and balance (if any). Cost sharing is also provided for. No object of expenditure breakdown is required.
>
> Each NASA contract is reported on a monthly public voucher giving cumulative expenditures by major cost elements: salaries and wages, employee benefits, travel, equipment and facilities, supplies and services, and indirect costs.

> EPA Contracts - Difficult special reporting may be required, including projections of expenditures along a "line/axis." This is specialized reporting similar to the highly technical and intricate monthly and quarterly reports required for NASA contracts.
>
> ERDA - Detailed reports of expenditures made under each contract are sent quarterly by each campus to ERDA comparing actual expenditures with the amount advanced. This report shows the current quarter's activity and the cumulative activity from the inception of the latest letter of credit agreement. All ERDA awards are by contract, and each contract requires an anniversary report similar in detail to the annual DHEW grant reports. In addition, the final 10% of expenditures on each contract must be claimed on public vouchers giving cumulative totals.
>
> DHEW - The Departmental Federal Assistance Financing System (DFAFS), for quarterly reporting and reconciliation of cash, is a relatively new system for DHEW contracts and grants. Required in addition, for grants, is an anniversary report on each grant. The report gives cumulative expenditure totals by object classification of the original grant, generally consisting of from four to eight standardized classifications. Agencies within DHEW differ in the categories isolated. The National Institute of Mental Health (NIMH), for instance, lists 14 categories for direct costs, plus indirect costs.
>
> Separate categories beyond standard ones are consultant services, hospitalization, outpatient costs, alterations and renovations, publication costs, trainee stipends, trainee tuition and fees, and trainee travel. The last three items are an indication that the form is intended also for reporting on training grants.
>
> For contracts not covered under a basic agreement, a "Contract Financial Report" is submitted with the monthly public vouchers, giving cumulative totals by the contract's object classifications. Contracts under the basic agreement require only submission of a final voucher upon completion.

The authors concluded that the budgetary and financial requirements produce an "artificial segmentation of research program work" because of a "funding and accounting orientation toward the process rather than the product." In other words, the requirements make sense only if the goal is to use the budget to get the research to come in a more convenient way, having administrative preferences be more important than getting good research.

They noted that these requirements produce more work and expense, delays in research, irritation, and a justifiable fear of disallowances: "disallowances are all but guaranteed by the stringency, complexity and inconsistency of requirements ." Only as they forced improvement in

University accounting systems was there much of a benefit.

The Report's recommendations flow from these findings. It urges that agencies monitor research projects via progress reports rather than complex financial reports and controls, that requirements be standardized and terminology clarified whenever possible, and that flexibility in spending be provided "to accomodate the pacing and the natural direction of the research."

A-110 was issued, in part, in an attempt to simplify and codify financial reports on grants, although Attachment G leaves some openings for agencies to retain or add their own additional reports. It prescribes that agencies will obtain financial information on a Financial Status Report, at least annually and no more than quarterly, and a Report of Federal Cash Transactions, which is to be submitted quarterly and may be required monthly when a recipient is receiving advances of over $1 million per year. It also provides for recipients to use a Request For Advance or Reimbursement form and an Outlay Report and Request for Reimbursement for Construction Programs form, each of which can be submitted "at least monthly".

A copy of each of these forms is provided in Attachment G and it is clear that they require a good deal of information. On the other hand, if they were used for all grants and were the only forms required then financial reporting could be simplified a good deal. The regulations also prescribe that only an original and two copies of each may be required of recipients.

Before turning to other things, a last comment on financial reporting and required record keeping and documentation is in order. Hidden behind all of this petty detail is a Federal attack on one of the basic elements of campus life. A university is fundamentally a highly decentralized place. This shows up in its academic structure, in hiring, in the notion of academic freedom. It even shows up in accounting; universities use fund accounting in which money from thousands of sources is kept in, and paid out of, thousands of separate accounts. Berkeley has over 13,000 account-funds which must be separately managed, it being very difficult to transfer funds from one account to another. Decentralization on this scale can be sustained only by heavy reliance on the principle of certification - money is spent, items bought, invoices paid, business conducted because an individual certifies that this should be done. If someone of repute signs for it, that's adequate documentation.

Government does not work this way, and it now doesn't like universities working this way with its money. It wants more documentation, more clearances, more prior approvals, more record keeping, more reports - on pain of disallowing the expenditures (retroactively) and refusing to pay for them. Thus what seems like a simple demand for more accountability in individual cases adds up to a frontal assault on an essential ingredient in campus life that makes the university what it is. The assault is incremental and the campus yields grudgingly, neither party clearly seeing what is at stake. We are chopping down trees and will be poorer for the loss of the forest.

Progress Reports

The federal agencies require progress reports on projects. In many instances these are no more than a few paragraphs once a year to summarize progress made to date. However, in some cases the reports must be sent more often and require more time and attention.

Those who do not have to submit extensive progress reports until there is real progress to report have no complaints. But others object that they must submit accounts that are merely time-wasting "window-dressing." One investigator, for example, must report to ERDA monthly on all "significant new discoveries" made; laughing at the notion that discoveries come on a schedule, he has thought of replying after one month "I have discovered that the earth is flat," after the next month "Further calculations suggest the earth may not be flat," and so on. The University's basic agreement with AEC/ERDA provides for regular progress reports, in six copies, in considerable detail.

Some of these requirements have their origins in the agencies' bureaucratic and Congressional struggles rather than in any necessity to monitor the research itself. A good example is the annual report that must be submitted for each Biotechnology Resource grant of NIH. The report format for this year recently arrived from the agency (in July). A note to the principal investigator states that he should submit, in addition to the report, two "research highlights" describing scientific advances "which you feel are most deserving of attention by Congress or the public. Both highlights are to be as free from technical language as possible, and about one page, double-space in length ... ten copies will be needed ."

As to the report itself, which must also be submitted in ten copies, the instructions begin by listing uses to which it is put. These include "responding to queries of officials of the Department of Health, Education and Welfare, the Office of Management and Budget, the Congress and members of various NIH advisory groups ," as well as assisting the agency to "justify the existence and future of this program ..." The report format consists of twenty pages of either instructions or required forms. The instructions call for a section describing the project and its current work in an extended narrative, and another that supplies data on every investigator (listed alphabetically) who has used the Biotechnology Resource in question classified by whether his work was for research, collaboration, service, or training. Another section is to contain the amount of time (in hours) spent by the staff plus time of instrument use for each project (including computer time in minutes - "If more than one computer is used, each should be listed separately"). Down time totals for the Resources's computer must be listed. Also to be submitted is a list of all equipment costing over $1,000, "whether or not the equipment was purchased with BR grant funds," with a description of each item and date of installation or acceptance. Both a summary budget and a detailed operating budget for the current year is to be submitted, using estimates for the three months remaining in the current year that are "as precise as possible." This includes a report on all funds for the Resource coming from sources other than the agency, and a justification for this year's budget. The final section must contain "concise, but complete, abstracts of all 'core research and development' and collaborative projects and a representative sample of all other projects ..." to be prepared by the individual investigators.

Reading through this format, astonishment mounts until the eyebrows threaten to invade the hairline. The agency seeks justification for a budget it approved and which is nearly spent. It wants reports on equipment it didn't pay for and funds it didn't supply. It wants instrument and computer use time in minutes, including down time. All in ten copies! And this is in addition to the separately submitted renewal application.

Other Reporting

Still other reports flow from agency provisions on contracts and grants. Some are annual reports associated with particular agencies, others are occasional efforts. An example of the former is the NIH Manpower Report. Each recipient of an NIH contract or grant must annually list all people who recieved any salary from the award, divided into four categories, with information on each concerning his or her age, sex, highest degree held, degree sought, number of hours and weeks worked and salary paid. It must also indicate the nature of the work performed, making use of a code sheet with over 125 categories. One department estimates that it takes from four to twelve hours of staff time to do the NIH report on a grant, and the department has four of these grants. Similar manpower surveys have been conducted annually by NSF, NASA and other agencies in recent years.

To illustrate special reports there is the Departmental Employee Activity Report required of all faculty and staff employees throughout the University this summer. Forms and instructions were delivered in May. On the report the relative amount of time devoted to various categories of indirect administration must be estimated. This has not been received with good grace - the instructions alone run four single space pages - but it has been made necessary by the running dispute between the University and HEW auditors over indirect cost rates. HEW has been challenging the University's figures on administrative overhead, and the result is this survey to generate the relevant data.

Federal pressure to increase University cost sharing has already been mentioned. On any project where there is cost sharing, the principal investigator and Accounting must properly document the campus contribution on a Cost Sharing Contribution Report. Agencies have varying requirements in this regard to which the campus must adapt. Another is the Advance Payment Summary Cash Report introduced by DOD last year to comply with new Treasury regulations. The report requires four kinds of information pertaining to advance payments received, disbursed, and balances. If a project should involve laborers and mechanics the Department of Labor's Copeland Regulations require weekly payroll statements on those employees.

Procurements

During the lifetime of every contract or grant it will be necessary to acquire equipment and supplies. Often the central purpose of a grant is to purchase equipment. Aside from the funding, the government injects itself into these matters in three ways. First, it makes surplus government property available to the campus at virtually no cost. Second, it attempts to supervise the spending of federal funds for equipment and materials by means of budgets, requiring prior government approval for many purchases, record keeping requirements, and reports. Third, there are various federal agencies or legislation that control the purchase and movement of materials, such as the postal service and the Customs Bureau, and the acquisition of equipment and materials by the campus is therefore affected.

A broad perspective on all this can be retained if we recall that government is an exercise in the distribution of collective goods. One of the properties of collective goods is that there is no ready connection in the mind of a beneficiary between the benefit he receives and the contribution he makes, i.e. we can collect and appreciate many of the benefits of government yet readily try to cheat on our taxes. With respect to property the government owns or pays for, it becomes everybody's and thus nobody's, and there is a temptation to use it accordingly, that is, to waste it. The government's recourse is close regulation, both of itself (for officials are subject to the same temptation) and of others. The campus is caught up in the dense tangle of rules and obligatory procedures that is the result.

Excess Government Property

There appears to be little doubt that the right to use excess government property on contracts and grants has saved the campus a good deal of money over the years, and that these savings clearly outweigh the minor administrative difficulties involved in acquiring it. The system for obtaining such property is managed by the General Services Administration, which regularly publishes catalogs of available items. To obtain an item the campus submits a simple request and, if it is granted, the item is usually free except for any shipping charges.

Sometimes there are problems relating to the time it takes to prepare a request, which arise from the necessary record keeping the campus has installed on government property. When the department or the investigator relays the proper form to the Purchasing office, that office sends ti to Inventory, which clears it with the Receiving department, from where it goes back to the source of the request, before being sent on to the government. By that time the government may no longer have the item. This is a distinct possibility when the item is in demand, because various other agencies may be in competition with the University for it. When the item is one offered by DOD, any DOD contractor, which would include departments and investigators at Berkeley, has priority access before it is put on the GSA list, which eliminates some of that competition.

More difficulties arise in having to keep a running inventory on all such property, make regular reports on items over $200 in value with a useful life of more than a year, and submit a final inventory plus a recommendation for disposal of the property once a contract is completed. This is discussed in the next section and need not concern us here.

Another minor irritant is that as some labs have noticed, the state government sometimes has federal surplus property donated to it after no one else put in a request for it, property which the state then offers to sell to the campus, which seems a bit less than generous.

Government Control Over Acquisitions

The government is very much interested in supervising the purchase of equipment and materials with federal funds. It regulates how such purchases are made, and gives prior approval to many. The regulations involved are extremely elaborate, vary with the agency concerned, and are seldom models of clarity.

Control begins with the budget for the award, one portion of which is for equipment. Any rebudgeting to spend more for equipment normally requires agency approval, which can take a good deal of time. Unfortunately, it is common for an investigator to find his equipment budget insufficient. Inflation is an insidious enemy here, driving costs beyond original estimates. So is the inherently unpredictable nature of research, which can open unforseen avenues or problems for which additional equipment is needed. Another factor is the pressure, when doing research at the frontier of a field, to be constantly outrunning the available technology so that the investigator is forever after the latest model of an instrument or other piece of equipment; with new models constantly coming out and often costing more, the investigator finds he needs more money.

Roughly 90% of all Berkeley contract and grant rebudgeting is for equipment. Thus the impact of the paperwork and delays involved in prior agency approval is substantial. A recent Berkeley report[10] urged all federal agencies to use the "institutional approval system," developed by the Public Health Service, that has been in effect on PHS awards since 1972. Under this system the head of the unit from which a request comes must review it, along with the Accounting Office. Their approval is sufficient, except for rebudgeting for general purpose equipment which must be referred to PHS. The study reports that this system is far more flexible and efficient and involves no waste of government money. By using a single, simple, form much clerical effort is saved. The investigator also saves considerable time. The report estimated that if just one other agency, NSF, adopted this system $47,450 in annual costs could be saved (a figure now outdated by inflation). Presumably the cost savings would be substantial if all federal agencies did so as well. Fortunately, the new NSF guidelines for implementing A-110 essentially adopt the PHS system, an important step in the right direction.

In addition to budgetary controls there are procurement regulations aplenty. There are Federal Procurement Regulations, The Armed Services Procurement Regulations (ASPR), NASA Procurement Regulations, and others. They are huge volumes with endless detail. For instance, Title 41, Public Contracts and Property Management, Subtitle A of the Federal Procurement Regulations is almost 800 pages long. Defense Procurement Circular No. 76-7 issued in April consists solely of recent amendments to ASPR and is hundreds of pages long. It is not always clear which provisions apply when, and the different sets of regulations do not entirely agree. For instance, HEW has its own variations on the Federal Procurement Regulations.

For the individual researcher, certain aspects of the procurement regulations are salient. One of these is the frequent need to obtain prior agency approval. Most agencies require it for "general purpose equipment" - which includes refrigerators, air conditioners, calculators and like items. NIH must approve any such equipment costing over $250; others use $200, $300, or $500 limits. There is a dilemma here, for lots of items that could be used for many purposes have a clear function in research. For instance, refrigerators are vital in a biology or chemistry lab to hold many of the standard agents used; air conditioners are prerequisites for the care of animals used in research, and in fact federal animal welfare regulations require them. Thus what appears like a "general purpose" item may not be. The government resolves the dilemma by making the investigator ask for it, but this means it must process huge numbers of requests that are almost never rejected.

Aside from general purpose equipment agencies have regulations setting a dollar limit on purchases of research, training, or special equipment, above which prior approval must be obtained, a limit which will be written into the contract. Almost always the limit is too low from the viewpoint of the campus. As a general rule the limit is $1,000. NIH uses $1,000 or 125% of the amount for equipment approved in the award budget, whichever is greater. Sometimes prior approval is required even for maintenance expenditures on such equipment. PHS wants to approve any alteration and renovation costs over $250.

Obtaining prior approvals can take one to two weeks or three to five months. NASA is particularly slow because it puts requests through a double screening to determine if the government already owns suitable equipment elsewhere the project might use. ONR, on the other hand, maintains a representative on campus (and 28 others like him around the nation) who can provide approval almost at once on many items.

Once in a while there is a special problem. Last December one poor Berkeley investigator set about preparing a research proposal involving THC (marijuana), when it occurred to him to ask about procuring some, other than by hanging around the steps of the student union building. The Purchasing office discovered THC is more difficult to obtain than heroin. The proposal (7 copies) had to go to the California Research Advisory Panel. After approval there it had to go to the NIMH Studies on Narcotic and Drug Abuse office in Maryland - the only legal source - where three separate approvals were required. Only then could an order be placed. Delivery was to take place only under special conditions; either it would be hand delivered to the investigator, or to campus Receiving for immediate delivery to him, or otherwise immediately locked in a safe.

A particularly annoying, and ultimately costly, factor is that equipment bought on a grant can't be amortized by putting aside funds from the grant to replace it. As we shall see in the later discussion of auditing controversies this cannot be done for common service equipment (motor pool care, computers) either. Lack of money to replace obsolete equipment or for normal maintenance is one of the considerations that leads investigators to seek the very latest equipment they can get. Then when the equipment finally breaks down one must approach the government for a good deal more money to replace it.

Another recent development involves procurement of computing time. It used to be possible to do computer runs on the excellent facilities at the Lawrence Berkeley Lab, funded by ERDA, at low cost. But the General Accounting Office has now ruled this out for some investigators. The lower rates and the possibility of having one's own remote terminal to use the facilities is now confined to "ERDA related" projects. If runs must be done on poorer campus facilities the computer costs on large projects may be five times as great.

The Purchasing office bears the brunt of federal regulations on acquisitions. The office delegates approval to departments for purchase of up to $100 but supervises those above, and will not seek to fill an order on which prior agency approval is required until it is in hand.

The record keeping and reporting burdens of the office in connection with federal regulations are substantial. All department requisitions must be sorted into federal and non-federal categories (by source of funds) as the basis for a monthly report on total business and a quarterly report to the University's Materiel Management Office. The office records must be kept so as to be able to distinguish all federally funded procurements. The proportion of the office actions related to federal funds is roughly parallel with Washington's contribution to the campus budget. Thus in the first quarter of FY 1976-77 32% of all purchase actions and 24% of all purchase amounts ($1.86 million out of $7.78 million) were on federal funds. However something like 3/4 of the report forms now used by the office are derived from federal regulations.

One of the more unusual reports for the office is the monthly University Storehouse Alcohol Report, used to record all barrels of 190 and 200 proof alcohol acquired and dispensed. This becomes the basis for the yearly Report of Tax-Free Alcohol User which goes to the Treasury, and which lists all alcohol acquisitions and use by month. These reports are part of regulations on alcohol that establish a limit on the amount the campus can have available at any one time under its license to purchase alcohol, which must be renewed annually. Every other year, the office reports to the Department of Justice on all controlled drug purchases, on which it must keep extensive records.

Office records are naturally substantial and must be retained for a good many years due to audit pressures and agency requirements. Apparently 75% of the records relate to contracts and grants. Most agencies want records retained three years, while Customs sets a minimum of five. Of course, there is the problem of when the clock starts - at the start of a purchase order? When it's placed? When the item is delivered? This is more important now, due to the auditors who annually descend on Purchasing in a swarm - from HEW, DOD, the state, and the University. Each can tie up a week of office time.

A number of the provisions inserted into the instructions or contracts that Purchasing uses with vendors are the result of federal requirements. Looking through the "terms and conditions" for equipment leases, purchases, and services, and at internal Purchasing office instructions, produced the following catalog of major ones:

1) Affirmative Action. The standard clause has the vendor certifying his facilities for employees to be non-segregated, his adherence to the principles of Executive Orders 11246 and 11375, and his committment to undertake affirmative action on women and minorities. He promises to discuss such action with the Universtiy, to communicate this policy "in both English and Spanish" to various sources, and to "provide University on request a breakdown of his labor force by ethnic group, sex, and job category".

   However the University may add a "Covenant Against Discriminatory Practices" to purchase orders which extends the University's and the seller's responsibilities greatly. Under this covenant the nature of discrimination is spelled out in more detail. The University asserts it can reject future work with the seller if he is found to be discriminatory. The seller agrees to provide evidence "as required by the University" that he has notified all supervisory personnel and all sources of employee referrals about the anti-discrimination clause. He must also file a compliance report, and work with the unions on affirmative action efforts. And "Seller shall notify University of opposition to the anti-discrimination clause by individuals, firms or organizations during the term of the contract." The seller even agrees to insert such provisions in his subcontracts. This is really University as enforcer.

2) Most Favored Customer. Here the vendor is asked if the prices quoted are the lowest offered to any federal, state, or local government, and if not why not. This reflects government insistence that it be charged the lowest going rate.
3) Government Contract Over $2,500. This provides that on any such contract job openings must be listed with the state employment office.
4) OSHA Clauses. These are clauses in which either the seller agrees to conform to the California Occupational Safety and Health Act and the Federal Act of the same name, or lists state requirements his equipment won't meet. Other clauses deal with ensuring that when radioactive material or other hazardous substances are supplied, proper precautions will be taken, and that all refrigerators for labs have been desparked.
5) Foreign Order Clauses. The office must receive copies of the invoices on foreign orders, including a special customs invoice on orders over $500.
6) Live Animals (Foreign). The Purchasing office must be notified of the carrier and arrival time by cable. This emanates from government animal welfare regulations.
7) Government Source Inspection. Asserts the government's right to inspect the vendor's premises and work at any time.
8) Buy American Act. Seller agrees to supply items mined or produced in this country.
9) Examination of Records. This gives the Comptroller General access to all the seller's records for three years after the contract.
10) Labor Surplus Areas and Small Businesses. The Seller agrees to do as much subcontracting as possible with small firms and in labor surplus areas.
11) Other Applicable Laws. "Any provision required to be included in a contract of this type by any applicable and valid Federal, State or local law, ordinance, rule or regulation shall be deemed to be incorporated herein". Just in case anything was left out!

In view of the cumbersome nature of government procurement policies and regulations, there was some hope that A-110 would bring relief. Alas, Purchasing's view of the prospects under A-110 is grim. A-110 will force revisions in government regulations, but not always in a beneficial direction. Attachment O has numerous provisions that carry the promise of considerable expense and delay, with attendant frustration. One of these pertains to conflict-of-interest in forbidding contractors to both design the campus specifications and then bid for the order, which the University believes is too restrictive. Another is a provision requiring screening to avoid buying duplicate equipment. Reaction to this is mixed. On the one hand, investigators and departments would like better arrangements for detecting what is available on campus. On the other, they don't want to have to look all over campus, for they know from experience that lots of equipment can't readily be moved and efficiently shared, and that much of it is set to very precise limits for a particular project which are disturbed if it is shared. Thus if an item is close at hand sharing may work, and required screening to find it is useful, but it is "far away" if it is in another building. This is certain to be difficult to explain to agencies and auditors. In May, the University announced a new policy under which departments look within their units for items between $1,000 and $10,000 with a campus-wide search for those costing more.

A-110 requires competitive bidding wherever possible, plus prior approval for any sole-source contract over $5,000. Purchasing will have to do a price or cost analysis for every procurement action, and for all purchases of over $10,000 its records must reflect the basis for selection of the contractor, a justification for lack of competitive bidding, and the basis for the contract cost or price. This all means more work.

Other interesting features of A-110 include its requirement that contracts be with "responsible contractors" in terms of integrity, past performance, and financial and technical resources. Purchasing finds this awfully vague and likely to require gathering a lot more information on those who bid. Odder still is the requirement that in solicitations, when Purchasing seeks to identify the features of an item, it can't use a brand name as a shorthand way of doing this (as it often does) without clearly specifying "the specific features of the named brand which must be met by bidders" - thereby destroying the brand name's utility as a shorthand. More work. A-110 also requires efforts to utilize small businesses (as well as minority businesses), something the University thinks will be a significant new burden but which the Purchasing office does not.

Finally, A-110 requires that the following provisions be inserted in contracts (among others):

1) over $10,000 - affirmative action clauses "The recipient [i.e. the campus] shall report all suspected or reported violations to the Federal sponsoring agency".
2) over $2,000 construction contracts - a compliance clause on the Davis-Bacon Act, which concerns minimum wages and wages being paid once a week.
3) over $2,000 for construction or repair - a compliance clause on the Copeland Anti-Kick Back Act, prohibiting kickbacks.
4) over $2,000 in construction and $2,500 elsewhere - a compliance clause on the Contract Work Hours and Safety Standards Act, which requires time and one-half for overtime and provision of safe working conditions.

Another recent development is the new campus policy barring purchases within the last 120 days of an award or requisitions within the last 30 days, so everything used will be in place prior to the last month. This is to meet government pressures coming from various sources. Faculty complaints about this policy have already been mentioned. In Purchasing it will mean:

- more letters to departments reminding them of the limits;
- more efforts to get exceptions or extensions to the deadlines - the office has drafted a form letter to remind departments of how to justify an exception;

more delivery acknowledgements sought from vendors, and more checking on whether they will make the 30 day deadline in their deliveries;

more contact with vendors when they seek exceptions;

Naturally, all this will mean more staff.

Another old acquaintance in this report is the "gap", which can have some peculiar effects on Purchasing. Whenever award renewals fail to come in, the office can prepare paperwork and solicit bids for needed purchases but can't send out any orders. In one case this year renewal was delayed so long that an intended purchase of an electron microscope had to be re-started because the bids had lapsed - of course inflation pushed the new bids quite a bit higher. Another example involves contracts for regular maintenance. If a vendor has such a contract for upkeep on a computer funded under federal award, and the award isn't renewed on time, the vendor's contract lapses and he may elect to be paid on a daily time and materials rate, which boosts the cost considerably. This hasn't happened at Berkeley, yet, but did occur at UC San Francisco.

Involvement With Other Federal Agencies

This section concerns restrictions on procurements derived from other than the contract and grant agencies themselves. We may as well start with the Buy America Act. To purchase foreign items takes approval of the award agency. However, it also brings in Customs because the items can't be imported duty-free unless the campus can prove they aren't available in the US. This is an elaborate process, so much so that the office figures its additional cost on a foreign item is about $500 in clerical time. Its rule of thumb is that if Berkeley can't save $1,000 by buying an item abroad, it isn't worth it.

This brings us to the problems with foreign purchases and Customs, which at least have the virtue of being distinctive. Some examples: one joint project between campus investigators and others in Europe required regular transferral of equipment between them. Could the campus get a blanket authorization to admit the equipment duty free each time? It could not. Hence every time the equipment returned to the US the campus went through the same paperwork and paid some duty.

A number of items can be imported only if the trademark is removed on entry, because a US firm owns the rights to its use in this country. If the trademark isn't removed, Customs may seize the item and sell it. So on these items Berkeley must arrange for this, and record who removed the trademark (usually a jeweler), when, and who witnessed this. It's an improvement over the old days when the Customs people had to personally observe the removal. For some reason Customs does not automatically inform Berkeley as to which items are subject to the regulation; one has to ask in each case. All this stringent control looks a bit silly when someone mails an item from abroad worth less than $250, because the Post Office simply ignores the trademark removal provision and neglects to tell Customs.

The best example, by far, is the case of the Chinese typewriter, which is still not resolved. Berkeley has purchased a Chinese typewriter from Peking, but the Customs people want to charge duty on it because it doesn't look like a typewriter to them. Here are portions of the latest Purchasing communication (July 30) on this weighty matter:

> Gentlemen:
>
> We are writing to protest what we feel is excessive duty levied against our importation of a Shuang-ko Chinese typewriter. We assumed that this typewriter would be entered under U.S. Tariff Schedule 676.0530 as a nonelectric typewriter, non-automatic with hand operated keyboard.
>
> We understand from our Broker, W. J. Byrnes & Co, Inc., that because it did not have a keyboard, exactly as a Western typewriter does, we were assessed duty under Schedule 767.0700 as Other in Column 2 (35%).
>
> Nowhere in the Duty Free Schedule, does it mention Western typewriters only and exclude Asian typewriters. The following information has been provided from our East Asiatic Library:
>
> 1. This machine has a keyboard, it is operated with a single key with an array of type loose in a matrix.
> 2. The key extracts type and it is put on a platen exactly like a Western typewriter.

3. It types a single character exactly like a Western typewriter.
4. It is used for typing letters, catalog cards, etc., the same uses as a Western typewriter would have.
5. The Chinese word for this machine translates to English as typewriter.

Sincerely,

Other difficulties arise with the tariff schedule, which is many inches thick, on duty bearing items. Before an order is placed, the office must calculate the estimated duty, which can take many hours when large shipments are involved. On films of over $250 value, the University must certify that they are for educational purposes, won't be sold, and are not obscene. Otherwise the duty is 48¢ a foot. (Not long ago a department acquired Japanese pictures, with some nudity, for a research project on aging. They arrived here all right but when sent back to Japan were rejected by Japanese Customs as obscene.)

Turning from Customs, there are numerous provisions pertaining to mailing or shipping that apply to the campus. One odd illustration: the White Mountain Research Station buys blood samples but in widely varying lots. ICC charges per sample vary with the size of the total shipment. On small shipments the price is higher, so Accounting rejects the bill as too high, so Purchasing must go and explain. Or, in shipping drugs there is a requirement that they go by registered mail. Various regulations pertain to the proper packaging and labeling of drugs and other items.

There are regulations on waste disposal, particularly radioactive waste disposal, with which the campus must be familiar. Buying a car means attention to anti-pollution regulations, for radio equipment - FCC regulations, and so on. Others pertaining to occupational health and safety and privacy are discussed elsewhere in the report. Public Law 93-623 requires use of US flag air carriers "to the extent service by such carriers is available," according to a DOD procurement circular. The Energy Policy and Conservation Act states that procurements are to be based on considerations of energy conservation and the relative energy efficiency of goods, which hasn't begun to affect Berkeley procurements much but probably will.

General Comments

Without doubt, the extra work and the delays associated with procurements not only complicate matters for the investigator, they also inhibit progress on research projects. As one lab manager put it, "they greatly extend the time it takes to do an experiment ." The regulatory burden also inflicts a variety of opportunity costs on Purchasing, making it impossible for the office to provide service it once used to or would like to make available to departments and the campus. The office finds it impossible to visit and assess potential or actual vendors as it should. It now offers less on site assistance to departments and labs, such as visits to help in understanding regulations or planning procurements. It has little time to aid departments in trouble such as Biochemistry, which recently lost both its business manager and his assistant.

Assessing the costs of all purchasing - related restrictions is, as in other areas, beyond reach. Purchasing itself puts its own costs due to federal regulation at 40% of its annual budget, which would be $143,116 in 1976-77. Part of the administrative overhead on most contracts and grants would have to be added to develop a more refined figure for the campus as a whole. For instance one might wish to include the costs of the office space granted to the ONR campus representative, which Berkeley supplies.

It is widely believed that a number of things could be done to make life a bit easier at no real cost to the government. One would be for the agencies to grant the campus more authority to approve rebudgeting. Another would be to raise the cost limits over which prior approval for purchases is required. A third would involve a little more flexibility in money at the end of the budget year in a continuing award, a kind of "carry over" provision so that investigators and departments need not feel that every penny not spent this year is a penny lost. Everyone would dearly like to see the procurement regulations simplified and standardized, without A-110-style provisions that standardize by making some things worse.

It is widely accepted that regulations are necessary because abuses are possible, but no one seems to feel that the procurement regulations in their entirety are of significant benefit to Berkeley. Of course they do keep a lot of people employed.

Property Management

The considerable lengths to which people on the campus must go to acquire government property or property under federal contracts and grants have already been discussed. Here we turn to the management of the property once it has arrived. Ultimate authority, for grants, on property management is OMB Circular A-110, as implemented by the various federal agencies. It is just now being absorbed by the campus and the University. From reviewing A-110 we will turn to some of the University's inventory control procedures. Then we can see how all this works out in the Berkeley Inventory Office.

A-110 attachment N prescribes uniform standards for management of property supplied by the government or purchased using funds from a federal "grant or other agreement". One portion of A-110 orders federal agencies to prescribe requirements for use and disposition of real property (land, structures). Those requirements must include the following provisions:

title vests in the recipient of the property;
permission must be acquired from the agency to use the property in any projects other than the original one;
at the end of the project, the recipient must get disposal instructions from the sponsor;
if the recipient keeps title to the real property, it must compensate the government based on "the Federal percentage of participation in the cost of the original project, as applied to the current value of the property." Similar compensation is necessary if the property is ordered sold. Similarly calculated compensation goes to the recipient if the property is transferred to the government.

A-110 then proceeds to a discussion of federal nonexpendable personal property, which is defined as property with a useful life of over one year and which costs $300 or more (except in some cases, when it's two years and $500). Here title is vested in the government, and the agency must get an annual inventory from the recipient, as well as an inventory at the close of the project. However, for some of this property title vests in the recipient (why is not clear), except that if it cost more than $1,000 the agency can reclaim the title, and must then issue instructions for disposal within three months after the project ends. The recipient can use it on other projects by reference to a list of preferences that A-110 supplies. If it cost over $1,000 the recipient can keep it by compensating the agency at "the percentage of Federal participation in the cost of the original project or program" once again, keeping 10% (or $100, whichever is greater) for selling expenses.

While it's being used, this property must be monitored via the keeping of detailed records by the recipient. In A-110's view, proper records encompass:

a description of the property
an identification number for it
noting its source, including the grant or agreement numbers
noting who holds title
the acquisition date and cost
"percentage of Federal participation in the cost ..."
"location, use and condition of the property and the date the information was reported"
unit acquisition cost
data on the ultimate disposition of it

In addition, all such property must be marked as government property, and a "physical inventory" of it taken once every two years. The recipient must have proper control and maintenance procedures. If any of the property is lost, damaged, or stolen, the recipient must "promptly notify" the sponsoring agency.

Next comes expendable personal property (all tangible property that's not nonexpendable). For these items title vests in the recipient, but if in a project there is over $1,000 worth of such property (at market value) when the work is completed, the recipient can keep it but must compensate the government in the manner mentioned above.

Finally, there is intangible property (inventions, patents, copyrights). On any inventions and patents produced the agency must decide how rights are to be allocated. With copyrights, the agency must reserve the right to use the material free, and freely, for government purposes. These provisions mirror ones that have been in use for many years.

While A-110 has other provisions, this summarizes the main ones. Here, as in other matters, the point of A-110 is to get rid of an irritating feature in government regulations, the great variations that can exist in agency requirements. However, federal property management requirements have still not been completely standardized. NASA requests an annual report on all acquisitions and disposals (by specific awards), and individual DOD agencies get an annual listing by contract of the dollar amount of government holdings in each of five categories, but other federal agencies often have no such requirements.

In some areas, A-110 standardization may be an attempt at a cure that is worse than the ailment. The frequent references to "compensation" have aroused a fair amount of concern on campus and in the University because no one is at all sure what they mean. This is apparently a relatively new idea; existing University instructions on the handling of government property make no references to it. A-110 may force part payments to the government on the sale of any excess government property now in the University's hands, which would be very complicated to implement. Or it might require record keeping designed to measure how much an item was used in a multi-funded project, or how much it was used on a federal project as opposed to others, in order to calculate the percentage of the government's contribution - a very nasty thought.

Another sobering feature is the $1,000 acquisition cost limit, above which the government may retain title or the right to reassign the property after a project is completed. It is when the government retains these privileges that the strain on record keeping grows, because all such items must be kept track of until the project in which they are being used is completed and the government decides what to do with them. University recommendations that the limit be raised considerably, made while A-110 was being drafted, were ignored by OMB.

The University Materiel Manager has been insisting over the past two years that A-110 Attachment N (plus screening requirements in Attachment O)requires that information be kept on the use, condition, and date of report on government property acquired that the University is not now properly equipped to supply, and that compliance will mean considerable additional expense. This is what much of the additional $1.6 million it is estimated A-110 will cost the University each year will be due to. (On a 1/9th basis, Berkeley's share would be $177,000.) One reason is that the University's equipment inventory data system was designed years ago and its age is showing. For instance, it has a limited capacity to record the specific contract or grant number under which an item was originally acquired, once the title to it has passed to the University. This would make it very difficult, for example, to keep track of government supplied property in order to compensate the government if it is sold.

Then there is the inventory problem. Under A-110 an agency must get an annual inventory of nonexpendable personal property where title is retained by the government, and a physical inventory of it every two years. A physical inventory involves literally the laying of hands on every item, to check it off the list. The University now requires that a department do such an inventory on all of its property at the close of the fiscal year. But departments have other things to do, particularly the secretaries on whom this unwanted chore is unloaded. The Inventory Office only checks up via a statistical sampling technique. Only when a contract or grant is completed, and the agency requires it, is a (terminal) physical inventory done, and agencies often waive this requirement. Thus to completely comply with A-110 either departments will have to take their inventories very seriously, or else the campus Inventory Office will have to do such an inventory every two years - a backbreaking chore.

Turning from A-110 to the University's property management system, the following two figures summarize a good many of the applicable provisions. They are taken from a 1974 study,[11] but have been only slightly revised since then.

UNIVERSITY REQUIREMENTS RELATING TO GOVERNMENT PROPERTY MANAGEMENT

PARAGRAPH HEADING	REQUIREMENT
Responsibility of the principal investigator and Chairman of the Custodial Department	Primary responsibility for the care, custody, maintenance, records and control of materiel in their custody and/or all property acquired under the terms of the contract. Timely reporting of all transactions involving equipment to the Equipment Management Department.
Location of Equipment	Record each item of inventorial equipment in departmental records. Record movement of each item in departmental records. Notify Equipment Management Department of location changes.
Utilization of Equipment	PI and Chairman of Custodial Department restrict use of Government property to specific contract. Maintain current use records. Periodic review to identify excess items. Report immediately to Contracting Officer all equipment not justified for retention. Secure prior written approval to use equipment on another contract from the Contracting Officer.
Reports	PI or Custodial Department shall furnish descriptive and operating technical data to Equipment Management Department when special reports are required by agency or when requested by Equipment Management Department.
Receipt of Materiel	Complete "The Report of Loss, Damage, Shrinkage" section on back of Government Bill of Lading on damaged shipments received and furnish statement of condition and apparent cause to Government. Provide notice of receipt of Government-furnished property to Government immediately upon receipt of property, For Contractor-acquired property notice of receipt is provided not later than the time university submits application for payment.
Identification of Government property	Equipment Management Department identifies, marks, and records promptly upon receipt. Mark with designation of Government department responsible for control and funding and Government identification number. Apply for registration number for automotive, construction, or materiel handling equipment. Remove Government ID number if university acquires title. Replace University label with a new one showing the property number and in parentheses the contract number under which the item was acquired.
Identification of Government Property other than Government Inventorial Equipment	Principal Investigator and Custodial Department are responsible.
Segregation and Commingling	Prior approval of Property Administrator is required.
Storage and Movement	Provide storage protection from corrosion, contamination and damage to sensitive parts. Remove sludge, chips and cutting oils. Record storage location. Provide moving protection entailing proper packing, covering, skidding, handling equipment, techniques and safety precautions. Secure prior approval of Property Administrator to move Government property to off-campus sites.
Care and Maintenance	Preventive maintenance program including lubrication, cleaning, calibration, and inspection on regular schedule required. Maintain records including description, date, actions performed, details of inspection and deficiencies discovered or corrected. Provide Property Administrator with copy of schedule for Government property. Secure written approval of Property Administrator for major repair or rehabilitation at Government cost.
Physical Inventory of Government property	Equipment Management Department verifies the Departmental Inventory by statistical sampling. A complete physical inventory shall be taken by the Equipment Management Department in cooperation with the Custodial Department when required by the terms of the Contract
Disposal or transfer of Government equipment	Government property must be screened against needs of other contracts prior to being declared excess. The Contracting Officer must authorize all disposal or transfer

RECORDING REQUIREMENTS FOR GOVERNMENT PROPERTY

TYPE OF MATERIEL	REQUIREMENT
Consumable Materiel, Minor Plant Equipment and Special Tooling	Government invoices, the University's purchase documents, or other documentary evidence of acquisition and issue are accepted as adequate property records.
Materiel Maintained in Stock or Stores	Records should include Contract number, or equivalent code designation, nomenclature or description of item, quantity received or issued, balance on hand, posting reference, date received or issued, price & disposition.
Tool Crib Items, Guard Force Items, Protective Clothing	Custodial records must be maintained.
Special Test Equipment	Records should include Contract number, or equivalent code designation, item description, ID number, quantity received or fabricated, posting reference and date of transaction, location, disposition, and unit or group price. In event group pricing is utilized, unit prices may be computed as and when required.
Plant Equipment Costing $1,000 or more	Individual item records required. Fed. Supply Code for Mfg. Cataloging Handbooks H4-1,H4-2, Name & address of Mfg Mfg. model/part number, serial number & yr. built, U.S. Gov. ID number & tag number, Noun name of item, FSC Cataloging Handbook H2-1,H2-2,H2-3, acquisition document reference and date, location, disposition document reference and date, contract number or equivalent code designation, and unit price when equipment is Gov. furnished, cost FOB mfg. when Univ. acquired. Unit price reduced when accessory and auxiliary items are permanently separated from the basic item. DD Form 1342 may be used as a source document for accounting records.
Plant Equipment Costing More than $200 and Less than $1,000	Summary Stock Records sufficient. Records should include same as above excluding Cost FOB mfg. and additionally quantity received and balance on hand. DD Form 1342 may be used for individual record card.
Accessory and Auxiliary Equipment	Recording on the record of the item of plant equipment required. If detached, not a part of, or acquired for use with a specific item of plant equipment record as above for plant equipment costing more than $200 and less than $1,000.
Centrally Reportable Plant Equipment	Equipment Management Department is responsible for preparing DD Form 1342 at time of acquisition or receipt and forwarding to DIPEC via Property Administrator. Standard Form 120 is prepared for equipment other than industrial plant equipment. NASA Form 907 may be used for NASA property in lieu of DD Form 1342.
Scrap and Salvage	A record is required to be maintained when requested by the Property Administrator including Contract number if practicable or equivalent code designation, nomenclature classification or description of item, quantity on hand, unit of measure, posting reference and date of transaction and disposition.
End Items	Records of all completed products produced under a Government contract are required. When shipped - A summarization of quantities accepted or shipped. When accepted and stored awaiting shipment - Quantities stored, location and disposition action. Retained for further use - Considered Government-furnished property upon acceptance and recorded as previously described.

Some elements in these requirements are of particular importance to the campus. One is the provision that the department track the movement of equipment in its records so that, in the current version of the University's requirements, "any item of equipment can be located for inspection or inventorial purposes within a reasonable time." Another is the requirement that all government property be marked to indicate the agency responsible for control and funding, and that the government ID number be removed when the University acquires title.

Other items of interest in these figures or in other University regulations include the following. Prior approval of the agency, or its representative, is needed to move any government equipment off-campus and a shipping or transfer document must be obtained. Prior approval is also required to "commingle" (a remarkable word) government property and University materiel, and in any commingling the identification of the government items must remain. Finally, all regulations pertaining to the University on government property apply to any subcontractor in whose hands that property ends up, (in keeping with an A-110 provision). "The inventory procedures of the subcontractor are reviewed by the University and designed to meet the requirements of the University and the government." Once again we have the University as enforcer.

This brings us to the Berkeley Inventory Office. The people there estimate that half of the office budget (or $50,000) is for work derived from federal regulations. This proportion may be steadily increasing because of A-110 difficulties just now appearing and because the federal proportion of money spent on equipment at Berkeley has been rising (in 1975-76 it was 40%, but it jumped to roughly 60% in 1976-77), which would mean a larger proportion of federal items in the inventory system in future years.

Difficulties with government property start with the simple fact that it must be treated as different from other property. It has to be identified as such, separate files have to be kept on property related to federal contracts and grants, even separate fireproof cabinets have been installed to hold key government property purchase orders and other records.

Next, simply to identify government property is a major part of the workload. Every item must have a decal on it, with the property identification number. When the item becomes University property then the decal must be removed, to be replaced by a University decal and property number. If the item is shifted from one government contract or grant to another, then the ID number changes so of course the decal must be changed. Handling all of this takes 8 to 10% of the total annual office man hours, and tramping all over helps ensure that the Inventory staff get out in the fresh air, keep fit, and meet interesting people. There is a great deal of government property to be tagged. (One faculty member remembers Inventory people dutifully "decaling" a number of lab items that were shortly to be heated to fiery temperatures in experiments, thereby burning away the decals.) And this property is located not only on campus but at Berkeley facilities around the state. Naturally some of it can't readily be found, and must be tracked down, and if it can't be found this must be reported.

When a contract or grant ends and a terminal inventory report on government property must be prepared, the Inventory office consults its records and sends a list to the department to be checked. The department and principal investigator can also report at this point on any (previously unrecorded) damage to the property, or on items missing, lost, or stolen. The department must also recommend a method for disposal of each item, no matter what its initial acquisition value. Departments find this onerous and, in many cases, foolish when the items involved are minor and virtually junk. (Even to throw something out takes an Inventory Adjustment Form.) One lab business officer reports that he is months behind in this work, that his office simply lacks the staff and time to handle it. There is widespread interest in confining the application of such a requirement to items with a much higher original aquisition value than the limits set in government regulations.

Then there are the records requirements, the annual reports that must be submitted to each DOD agency and to NASA, and the occasional reports to other federal agencies. The necessity to report by individual contract or grant and to specific agencies greatly complicates the record keeping. The University also requires, as indicated earlier, many procedures, records, and reports in order to meet its requirements with respect to government property. The crunch comes when the auditors arrive, and in recent years the number of audits has multiplied. This has led the Inventory Office to develop a system of random checks on department-held property, and to try to track down any item that fails to turn up in the spot check.

As mentioned previously, A-110 Attachment O envisages more elaborate screening to ensure that government money isn't being spent for items that already exist and are available for use on the campus. This directly concerns Inventory; as the keeper of records on what is where, it is the key link in any meaningful screening system. Inventory is just beginning to implement a brand new plan, forced by A-110, under which each department will be responsible for screening items between $1,000 and $10,000 in cost (presumably in consultation with Inventory), while the office will compile and maintain a master list for the campus of all $10,000-plus items of University property on which will be noted the items available for transfer or sharing and, if the latter, what percentage they can be shared. This will mean nothing less than a complete overhaul of the Inventory Office, changing the job specifications and responsibilities for every position. Simply keeping the list up to date should be quite a feat.

Here as in other places a government regulation is changing how Berkeley operates, and not without certain secondary benefits. Out of this new system should come better services to the campus by the Inventory people, less hoarding of equipment, and better sharing of what is available. This would be of some value because a number of principal investigators have complained at the lack of procedures for making more efficient use of existing equipment, now that money for new equipment is harder to come by.

The A-110 physical inventory requirement, on the other hand, might be traumatic for the Inventory staff if they have to implement it. Inventory already does such surveys periodically on all property in departments where the management of this has left much to be desired and it's time for someone to clean house. For a good sized lab such an inventory can take 2 or 3 people up to four months time. The filing of resulting forms, with all the necessary signatures, can extend the total time required to a year. Doing this all over campus just on government property would be a test of everyone's character.

Other ways in which the government has affected the office include the tremendous amount of time involved simply in discussing implementation of A-110. Much correspondence has been necessary and numerous meetings have been held with University personnel, and among the office staff. The pile of paperwork associated with A-110 is about three inches high and mounting rapidly.

Other Comments on Property Regulations

Years ago the Office of Naval Research established representatives on various campuses around the nation to facilitate the management of its contracts and grants. The Berkeley office has been managed by the same person for many years, and his services are available to all DOD agencies and other federal departments that see fit to use them. His backlog of experience is unmatched on campus, since he also covers other UC campuses and state schools, plus institutions in two other states. Talking with him is instructive for he reports that the government property regulations are a magnificent waste of everyone's time and effort. The regulations are designed to treat most items of government property as valuable commodities the government might very well reacquire, when a project is finished, to be used somewhere else. In his thirty years in the business he can recall the government actually doing so on less than a dozen pieces of property. Administratively it would make far more sense to simply give the stuff to the institution in the first place, with provision for those very rare exceptions in which the government wants something back. This would save everyone concerned from the endless record keeping and identification that now prevails.

Oddities abound. Within DOD, title to a piece of property cannot be conveyed to the University unless it was initially acquired on basic research funds. If it was bought in some other way, declared excess, and then turned over for use in a project, the campus must still keep records on it and submit reports to him (and he to Washington) for the life of the property, almost all of which the government will never again need or use. A-110 at first glance appears to make this a rule for all agencies, which is standardization by adopting the worst of existing practices. But apparently NSF and NASA have legislative authority to simply turn over title to the University and A-110 doesn't apply. However, to learn this Berkeley people put in a good deal of time ferreting out the exact meaning of some obscure phrases, taking A-110 apart with tweezers.

Another example concerns property that cost over $1,000 to acquire. The government has three options: 1) vest title to it in the institution, 2) keep title to it, 3) assign title to the property to the University, allowing the governemtn to transfer it elsewhere at the end of the project. The Office of Naval Research would like to use the first option, but if title is immediately assigned, the University must pay sales taxes on the purchase. So his office keeps the title for six months or more and then transfers it to save the University money, especially on big projects. This happy collusion means more of the government's money gets spent on other project expenses, maybe even on the research!

His conclusions reinforce the experience of the campus Inventory Office (which never has to return anything to the government) and numerous principal investigators. One of the latter reports that for years he used to distribute his obsolete lab equipment to scientists in a neighboring, and much poorer, university. OMB has now barred any such transfers. Nor is there any way to sell such equipment and apply the funds directly to one's research project (the proceeds now go to the Regents, and under A-110 would presumably have to be shared with the government). As a result there's a fair amount of storage or hoarding of useable but obsolete equipment.

On another, wonderfully apt, example the College of Engineering has been waiting for two years for the Federal Aviation Administration to decide on the proper disposal of a fog chamber - an 800 foot long telephone pole and wood frame shed, covered by plastic and metal sheets. The project it was used for has long since been completed, but the FAA couldn't resist trying to find some other use for it. Apparently the agency saw the wisdom of not asking for the fog back.

Experiences such as these are the basis for the recommendations of a major study on the impact of federal property requirements on the University that was completed three years ago.[12] With regard to nonexpendable personal property it was proposed that

> The title to property acquired ... with contract or grant funds normally vest in the institution upon acquisition without further legal title, reporting, use or disposition restrictions. This same policy should also apply to excess Government property made available ...

This would discontinue the government's right to recover equipment, and all the hassles that go with it, unless an exception was to be made on a particular item for a particular project, provisions for which could be inserted in that contract or grant. It would greatly reduce the necessity to put decals on myriads of items labeled government property even though the government never sees them again. Another recommendation was that reports to agencies on nonexpendable personal property acquired, where title vests in the institution, be dropped.

Still another recommendation was that

> The individual agency contract and grant restrictions on the use of property acquired under Federal contract and grant operations be eliminated. Rather, reliance should be placed upon the fact that the acquisition of the property was adequately justified initially and that a mutually acceptable property utilization program ... had been adopted by the institution.

The essential point here is that the institution can be trusted, particularly if it already has a property management system that is acceptable and in view of the fact that the intended purchases were listed in the application for federal funds in the first place.

Finally, it was recommended that the limit of $1,000, over which many Federal regulations on nonexpendable personal property come into play, be raised to $3,000. Judging by the experience of the UC San Diego campus, this would eliminate about 60% of the items now subject to various federal requirements. Such limits have a tendency to get frozen for years, while inflation forces an ever larger percentage of purchases over the threshold. Then both the institution and the government end up monitoring many purchases that at one time were believed too small to be worth the effort.

While these changes would be of considerable assistance to Berkeley, they would also benefit the government. They would have reporting and record keeping reflect what is normal with respect to the ultimate disposition of property, instead of having the government maintain an elaborate system that parallels the relatively intricate one the University and campus already use.

III The Conclusion of the Award Cycle

In the final phase of the contract or grant the work has been completed and the money spent. At this point the investigator and the campus have still more responsibilities to the government, and major additional problems in relations with the government loom for the campus and the University. It makes for a graceless finale.

Required Reports

When an award is terminated, the government is owed a final inventory report, a final financial report, a final technical report, and a final patent report on the project. An inventory list is prepared by the Inventory office and sent to the department and the investigator for checking. Where property is involved to which the government holds title, there must be a recommendation as to how to dispose of it. It is hard to summon enthusiasm for this chore, for the project is finished and everyone has moved on to other things. The press of current business invites putting off the final inventory until a more convenient time, which never arrives. In short, departments and investigators don't want to do the work, yet it is not unfair for the government to request a final accounting of its property. The grumbling that ensues can be dismissed. The financial report is prepared by Accounting and cleared with the department and the investigator. This is also a chore, but unavoidable. The government should certainly have a final statement on what happened to its money. The Campus Research Office handles the final patent report.

Then there is the technical report. The investigator or project manager must do this. On any project of merit the report should be substantial, and on a major project it could well be a significant undertaking. There is seldom any great professional incentive to do it, because papers, books, and other published materials were spun off as the project proceded. Faculty also resort to the argument that since the agency has had progress and financial reports all along, annual renewal proposals describing the work to date, and copies of all publications that resulted, why does it now need a final report? Hidden behind this is the vague notion that the money really was, or should have been a gift - how unkind of the government to now want a report. Inevitably, some investigators cannot bring themselves to get down to it. The agency badgers the Campus Research Office and that Office hectors the investigator. One major lab on campus now has a report that is a year overdue, but it involves an investigator who always has to be forced to write his final reports so it's become something of a ritual. The government is holding up the last few hundred dollars for the project until he gets it in. Sometimes the reports are delayed for several years. It would help if it were less obvious that in many cases no one ever reads them.

At times agencies have grown nasty or foolish over this. Not long ago the Air Force threatened to cancel all its contracts with the University because of one investigator's persistent failure to turn in a report. In another case, there was equipment left over from a project and the Navy provided a grant to maintain it while a decision was made about disposal but, sure enough, it wanted a final technical report just on that grant. Finally, under Congressional pressure NSF has recently taken to sending the Campus Research Office a quarterly list of all its contracts and grants on campus on which it is still owed a final report. The Office is to check on the status of each report and send back its comments. The latest list contains 125 NSF awards and it is easy to imagine the hours involved in tracking these down. The prospect has induced moaning and gnashing of teeth at Campus Research. The campus has arrived at the epitome of bureaucracy - submitting a report on reports to be submitted.

Still, it is hard to fault the government of the general point. Onerous as they may be, the reports come as no surprise to the investigator and are a normal end product of almost any project. It would be nice if faculty were more concerned about their image and that of the campus, and sensitive to the damage that such procrastination can do, but if they were they would not be faculty.

So many trials and tribulations are associated with the conduct of federally sponsored research, it's only fitting that they continue even after the final reports have been mailed. Some of the most trying elements in the government-campus relationship now emerge. There are two components in the costs of research charged to the government, direct and indirect. The University of California submits its figures on indirect costs as part of every project proposal, and the government pays on this basis, but only provisionally. After the year is finished the two parties must work out the "true" indirect costs, as the basis for adjusting the payments already received by the University - either the government pays more or the University gets less. Any adjustments are reflected in new rates that are used by the University in future years and are therefore reflected in future year payments. To work out the proper rates requires dealing with the auditors, and they play a hard game these days.

The Audit Controversy

For the last two years, the University has been going at it toe-to-toe with the HEW auditors. At stake are millions of dollars the auditors claim the University owes for a variety of errors in handling government funds. The University's position is that the auditors now disallow practices and expenditures that were acceptable for years, and that this is being done retroactively which is a harsh and punitive approach. Irrespective of the merits of each side's position, the controversy has had an enormous impact on the University and the campus.

To fully convey the dimensions of this impact it is necessary to reveiw the major issues in the controversy.

1) Cost Transfers

Cost transfer difficulties occur for a variety of reasons, several of which have already been discussed. There is the gap problem; there are transfers to purchase equipment not planned for in the original proposal; there are cost overruns due to unanticipated expenses or inflation that lead to shifting expenses onto other grants; there is the fact that many departments have difficulty keeping accounts sufficiently timely to avoid overruns. Whatever the reason transfers have been quite common. In fact, they have served as an important mechanism for injecting flexibility into research spending, flexibility that was used to ensure all the money was spent and to adjust budgets to the many changes that occur in the course of a research project.

This has been going on for years and, until recently, was acceptable to the auditors. Since HEW took over auditing for higher education institutions (in 1970) things have changed. These auditors have gradually moved to where they strictly interpret FMC 73-8 regulations requiring careful documentation of transfers. In their view the purpose of many transfers is to use up the money in the account instead of rightfully returning it to the government, and thus it's no wonder they aren't well documented. The auditors recently looked at a sample of 25 University cost transfers and rejected 20 or 21. They now want to extrapolate from this sample to the entire University and ask for rebates accordingly. This is one time when the University is against survey research. It wants the auditors to have specifically examined every single case in which a transfer is disallowed. (It seems two can play the game of burying the antagonist in endless detail.) Along the same lines, the government has recently tried to get University audit reports and to have federal projects included as targets of those audits. The University insists the government should do its own auditing.

It seems clear that at various places around the University a variety of unjustifiable transfers have occurred. The University's own audit firm reported recently that of the sample of departments it checked, over half had some questionable transfers.

2) Time and Effort Reporting

This is an old hassle. Federal Management Circular 73-8 requires that time and effort of an individual that is charged to a grant or contract be the actual work he put in. Faculty think this is silly; the government pays for research and it gets research. The auditors take the view that the government pays for a certain amount of research effort (say 20% of the investigator's time) and that's what it should get. They are suspicious when the time and effort reported fits the budget exactly - the budget says 20% so that's what the faculty member puts down. This is particularly touchy when, as is often the case, the investigator or student or secretary is working under several grants. Who is to say when work stopped on one and started on another. Well the auditors want someone to say, and say exactly.

Another aspect of this problem is the size of the work week. The government insists on buying a percentage of "effort". The faculty member insists the government is really buying the research; as long as the research is done, who cares how long it takes. Thus they see nothing wrong in having someone who is assigned to research on contracts and grants at 100% doing some teaching, just as long as he gets the required research done. The government insists that it cannot be getting 100% of effort if the man is doing some teaching as well.

3) Consultant Payments

As indicated earlier the government seeks careful control over the hiring of consultants and, in response, Berkeley has recently adopted stringent new policies on this. The auditors challenged a number of consultant transactions as inadequately justified.

4) Vacation Accruals

The trouble here is that employees do not always take vacations during the lifetime of the grant from which leave is to be paid. When the year is up, they move to a new award. If the money hasn't been saved out of the old one, then charging the old award for their vacation means an overrun. If the employee is simply paid the vacation he has coming out of the new account, then he earned money on one but is being paid on another. This is unsatisfactory to the auditors. The University has argued that if employees earn vacation on one account but are paid on another this is simply taking the money out of a different federal pocket and thus there is no cost to the government. The auditors are unmoved.

5) Equipment Purchases

The auditors' complaint here concerns purchases very late in the year's budget for a contract or grant, for reasons that were discussed earlier, or purchases that failed to receive necessary prior approval from agencies. The latter refers to items like calculators and typewriters. The auditors have disallowed a number of these purchases. The University objects on grounds that agencies have, in the past, encouraged even late spending to use up the money, particularly where the grant or contract is a continuing one and equipment purchased late one year can readily be used in the next.

6) Equipment Screening

This was discussed earlier. The government wants more effort put into avoiding purchases of equipment already available nearby. The investigators feel agencies don't understand how difficult it is to adequately share equipment in research, or how important it can be to have the latest model of something to maximize research productivity.

7) Summer Salaries

The question here is: how much must a faculty member work to earn the summer salary he is payed on an award. The University likes to pay a summer stipend equal to 1/3 of the faculty member's yearly salary.

FMC 73-8 says a summer month is worth no more than 1/9 of a faculty yearly salary, and that if he is paid for the whole summer he should work three months. But if a faculty member does summer teaching for the University, he doesn't work this long. Why, then. should the government pay for three months? A sticky question. The University response is that it buys a faculty member's services, not so many "days" per month; why should the government think to be buying a set number of days in the summer? An equally sticky question. The University has carried its objections on this point into an extended appeal, now working its way up through HEW.

8) Recharge Billing Rates

The dispute here arises out of the University's effort to get the government to pay for the replacement of services and equipment it helps wear out. Of course if one asks the government openly to do so, it says no, as was pointed out earlier, so the University has been doing it indirectly. When someone uses a central service or facility, such as the motor pool or certain computer services, the cost is charged against their University account. If the account is federally funded, then it is the government that is being charged. For years the University has authorized recharge rates for these services that were a bit higher than the actual cost. In this way it has accumulated a surplus from the users, used to pay for future expansion of the service or to replace the worn out assets, i.e. to buy new cars. This applies to all users, not just the government. The nest egg of these monies from all sources reached some $12.5 million last year. The auditors have just tripped over this egg, and point out that FMC 73-8 quite clearly prohibits such charges. The University has, after much objection, finally accepted the HEW interpretation.

How has this audit dispute affected the University? One of the obvious effects has been that it has returned some money - $378,00 at last count. The total involved may be much greater eventually; at one point the auditors were working with preliminary claims of $5.6 million. $2 million of this was in overcharges on service enterprises; the University has conceded there were overcharges but puts the figure at $1.4 million, which it is now willing to pay back. The $378,000 has been returned to the government via checks payable to the Treasury, but the University proposes to pay back the $1.4 million by rebating it on a pro-rata basis to the 8,000 contracts and grants, giving it to the investigators. Whether the government will find this acceptable is as yet unclear.

Another result has been an expenditure of an enormous amount of administrative time. It has eaten up over 75% of the time of the University's Chief of Audits. All top University officials have been involved, from the President on down. Lawyers in the General Counsel's office have been drawn in. The Chancellors of the nine campusus and many of their officials have had to follow the course of events and consider a wide range of adjustments and new policies.

In reaction to the auditor's findings, the University has instituted new rules and regulations and is considering others. Already noted was the new policy on equipment screening worked out in May. A new policy on recharges for central services is in the works, which will require new staff. The University's own accounting firm has urged that new accounting methods be introduced, and that vacation accruals be handled in a new way, which is to be done by having the central campus Accounting office manage the funds. It also proposes that the University deal with the gap problem by establishing a new account number before the renewal is in hand, charging the continuing research expenses to it rather than over-charging the old fund number during the interim.

The accounting firm also suggests the University reconsider the way it allocates indirect cost monies so as to let some of these funds flow back to the departments to help meet their increasing administrative expenses. This would be a most significant change in policy, for the funds now support a great many valuable activities; a major reordering of priorities would be involved. In a sense it would mean that federally induced administrative burdens had displaced a number of other University objectives and programs, a most serious kind of intrusion.

What about the effects on the campus? Many have already been discussed elsewhere in this report. A letter outlining the main elements of the controversy went out to the Berkeley faculty in October. In December two three-hour meetings were held among top campus officials and deans, chairmen, business officers, and principal investigators to elaborate further on the audit problems. Accounting organized eight training sessions with 250 business officers and staff. The requirements on cost transfers were considerably strengthened, in terms of documentation and signatures. A much more stringent set of policies on consultants was adopted. In May the new policy on avoiding purchases in the last four months of contracts and grants was issued. The new policy on equipment screening is just going into effect.

Berkeley was affected in other ways. The HEW auditors challenged $60,000 worth of consulting costs at Berkeley on 200 cases from July to December 1975, and a good deal of effort was required to successfully supply all the needed documentation and lose virtually none of the money. ($810 was disallowed.) However, Berkeley may eventually lose some money on disallowed cost transfers for it appears certain departments clearly violated the rules. Berkeley has been in the thick of the fight over summer salaries because it has faculty paid for a full summer, and HEW charges that the campus only requires 57-58 days work for the money where there should be at least 64.

All of these developments have added to the workload on every department and principal investigator. The Campus Research Office alone has spent at least thirty full staff days in the controversy in each of the last two years. The Accounting office has been similarly affected. It now questions many more transactions than it used to, and departments may have to submit required paperwork two or three times to get it right.

In May, the Army Medical Research and Development Command announced nonrenewal of its contracts with the University because audit problems had not been cleared up. Several of these contracts are at Berkeley and the investigators were left hanging. One investigator spent hours trying to get the decision reversed. She succeeded in getting funding from the Army only on a quarter-by-quarter basis, which was not much of a prospect to offer her research employees. Agreement on renewal of such contracts was just recently reached, but at the price of the campus promising that all fund transfers of over $250 will be submitted for prior approval to the Army, inviting more makework woes.

It is possible that a number of benefits will flow from this controversy. The new policies may either cut off some abuses or better document the absence of abuses and thereby avoid audit troubles in the future. The greater attention to fund management and improved departmental accounting may have a good effect on the administration of awards. Faculty will probably put a marginally greater effort into meeting their responsibilities under awards. More attention is being paid to the problem of inadequate administrative resources at the department level.

However, it is really difficult to believe the benefits will in any way approach the costs. The University's auditing firm, in a report released in July on the issues in the controversy, concluded that while the University was at fault in a number of places, the government was insisting on an excessively literal interpretation of the rules. The report concluded that the amount of error in handling federal funds was minor in comparison with the volume, and that the government lacks any overall sense of the cost effectiveness of regulations. It now seeks such detailed accounting that the costs outweigh the benefits.

The Indirect Costs Controversy

Long after a contract or grant budget year has passed, the University and the government are apt to be fighting about how much it cost to do the work. The government pays the direct costs, and it also pays an additional percentage of those costs to cover overhead expenses. This is based on the indirect cost rate. But these indirect cost payments are only provisional. After the fiscal year has ended and all the financial records are available, the University and the government try to agree on what the real rate was. They consult auditors and give the decision a technical gloss, as if it was based solely on what the financial records show, when in fact the financial records will not show anything decisively so the decision results from a political negotiation.

Relations between government and higher education have long been fouled by problems with indirect costs. Elements in Congress often view indirect costs as something like a profit for universities on research funds; the government pays for the researcher and his work, then it pays this funny add-on "cost" which doesn't go to research at all. In recent years indirect costs have been rising faster than direct costs and Congress keeps pressing HEW to do something about it. The universities claim that the government already cheats them out of some of this money by not paying its fair share of indirect costs, that these costs are perfectly legitimate, and that they are climbing rapidly for obvious reasons.

What are indirect costs? They are costs incurred to operate all the various activities and programs of an institution that can't readily be allocated among them. Good examples include utilities, cleaning services, central administrative services, library services, depreciation, departmental administration, research administration, and student services. It costs something in terms of each of these things to operate a federally funded research program at a university, but who can say with precision how much of each it really cost? Since there is no ready answer, the solution is to add up *all the indirect costs* of the institution and divide by some measure of the *size of the entire institution* to get an indirect cost rate. This becomes the average rate. Every federal project's size is then multiplied by the indirect cost rate which gives a figure for its indirect costs. Add up all the indirect costs of all federal projects and one arrives at the amount of money the government owes.

For example, we might measure the size of an institution via its total salaries, as the government prefers. Lets say this comes to $10,000,000. We add up the indirect costs of the institution and they come to $2,000,000. The indirect cost rate becomes $\frac{2,000,000}{10,000,000} = 20\%$. The institution has five federal projects which each had direct costs of $500,000 and salary costs of $300,000. The total cost of each becomes $500,000 + $300,000 X 20% = $560,000. The total cost for all five projects to the government should be $2,800,000. The government is charged $2.5 million in direct costs, and $300,000 in indirect costs.

The universities claim that the government improperly fails to allow a number of true indirect costs. No interest paid by universities can count, none of the costs of non-federally funded research, no fund raising or public relations costs, no catalog or scholarship or entertainment costs. Studies at a sample of institutions suggest that the government underfunds indirect costs by an average of 10%, and recent HEW plans would reduce these payments still further. Particularly annoying is the steadily rising portion of indirect costs in administration due to government regulation. The government giveth more cost while it taketh away more money.

Once an institution has determined an indirect cost rate it goes to the government auditors for their analysis. Once the audit report is submitted, a final rate must be set. If it's higher or lower than the provisional rate, some adjustment must be made. Most commonly, the solution is to alter future indirect cost rates accordingly. If the government payed at a rate of 25% and the final rate is set at 23%, then the next indirect cost rate might be set at 21%. However, an extended disagreement with the government over the final rate may occur, and the University of California is a good case in point.

The discussion that follows refers to a single rate. This is the rate for on-campus organized research, which is where most of the money comes from. However, there are actually quite a few rates: one for on-campus research, one for on-campus education-training-public service, and one for on-campus extension-special projects, with a different one in each case for off-campus activities. The government labs and certain University research centers have their own rates.

The old indirect cost rate for on-campus organized research was 34%, in effect from 1970 to 1974. HEW has been unhappy with this figure for some time. The administrative costs component allegedly borne by departments and faculty is considered too high. Also, it has disliked the fact that the University used the same rate for all nine campuses.

The current dispute began in 1974, when the University submitted its indirect cost proposal based on data from FY 1973, with a rate that would, if accepted, apply for FY 1976 and FY 1977. A year later, HEW indicated it was unhappy with the proposal and negotiations ensued. In December 1975 HEW's Regional Comptroller abandoned further negotiations and set the rate a good deal lower than the University proposal, at 26% for organized research.

The University has appealed, first to the HEW Regional Director (who upheld the Regional Comptroller), and more recently to HEW's Grant Appeals Board. The University's argument begins by noting that applicable federal legislation and rules require that an institution adhere to "sound management practices" and "generally accepted accounting principles," that decisions on indirect costs be based on fairness to both parties, and that for a number of years the University has submitted indirect cost proposals that were acceptable under these guidelines. In preparing its 1974 proposal the University had not changed its procedures; the proposal was rejected because HEW decided to use new methods for calculating indirect costs. This is improper for such a decision. Whatever the merits of HEW's methods, only if it can show that the University's practices are incompatible with the law and the regulations can it reject the University proposal.

Such is the University's case. The latest appeal has been delayed by Grant Appeals Board efforts to ascertain the precise nature of its jurisdiction. In the meantime the University has been using 29% as an interim rate while pressing the government to get its audits performed a good deal quicker. It has launched a new survey to measure the administrative costs of the departments and the faculty members.

The University has also agreed to shift to nine separate indirect cost rates next year. This is a major development, and may be the most significant result of the controversy over the long run. It will mean considerably more administrative expense just to compute nine separate rates. As indicated above, there are actually many rates, and most of them would be affected. This means that separate rates by campus will result in a total of 128 different rates. An already complex and murky set of calculations will get more so.

The emergence of separate rates will also bring increased pressure on the University to return the money to the campuses from where it comes rather than having a central allocation. In fact, the University is already moving toward this and, (in the words of a Presidential letter to the Chancellors in May) toward making "adequate support for contract and grant administration" one of the central purposes for which the money is to be used. And if the money is returned directly to the campuses there will be still more pressure to get a sizable portion allocated to the departments that "earned" it. This would strip some important financial resources from University Hall, particularly in view of the flexibility they provide. It would benefit the big research campuses and reduce the flow of funds to those that earn less indirect cost money. It would benefit those who concentrate on research in the hard sciences at the expense of those who emphasize other fields. If the money goes to the departments for research-related expenses, then it would do so at a loss in money for financial aid, student services, affirmative action, and other programs now funded via indirect cost revenues.

These are all changes in the University's priorities, in the pattern of distributing its resources, that could be long term effects of the shift to separate indirect cost rates. This is a good illustration of how government intrusions and pressures can set off a chain of events that alter important features of life in the institution.

Still another possible result is that application of separate indirect cost rates will be followed by HEW pressure to go to the individual cost rates within each campus. The argument would be the same - that an average rate distorts reality. Any such development would make it an even greater burden to compute proper reimbursement for indirect costs. There is also the fear that the large campuses with long established research activities will inevitably show lower rates than the others and thereby gain a competitive advantage in seeking contracts and grants.

Finally, any carefully drawn assessment of true indirect costs generally means higher rates. This has happened in the past and probably will again, for overhead and administrative costs have been rising more rapidly than any other costs on campus. When higher rates are proposed one of two things will happen. Either the government will resist, as it has recently, by devising new accounting methods that exclude more cost categories as unacceptable, which will further inflame government-campus relations. Or, the rates will be accepted, making for faculty irritation. Agencies have only a set amount of money available in any one year. The more they pay in indirect costs, the less they have for funding the direct costs of research. Faculty understand this perfectly well and, naturally, they are opposed to constantly increasing the indirect cost rate.

General Comments on the Management of Contracts and Grants

As we have seen, there is a growing amount of work involved in the management of federal awards. Detailed records must be kept, prior approvals sought, cost transfers documented, financial and progress reports submitted, and so on. One research unit is so dismayed at the new accounting and record keeping burdens that it is thinking of adding a new computer terminal for this purpose, especially since auditing fears now put a premium on trying to have every contract and grant account come out to the penny. The campus has become an Elysian field for auditors. The College of Chemistry was audited five times from 1970 to 1976, and requested to make three additional "self-audits" in 1975-76. The state has just announced a major audit of the University, to last for the next sixteen months. The administrative workload has been expanding steadily at the departmental level, which has a number of effects on campus, few of them salutory.

The most pressing one is exacerbation of the space problem. Space is at a premium at Berkeley, nowhere more so than for departmental administration. There is a steady stream of complaints that expanded office staffs and record keeping have led to increasingly cramped conditions.

However, many departments get backhanded help on this problem by not being allowed to hire the staff they need. This can be traced back to the fact, discussed earlier, that sponsored research is an overlay on the traditional functions of the university. At Berkeley the following situation prevails. First,the allocation of state funds is not driven by the needs of the research side of the institution. For instance, there is no formula for allocating state funds to departments in proportion to their sponsored research activities. Thus the Space Science Lab does about $6 million in Federally funded research but gets only $100,000 in state funds for administrative purposes.

Second, the needs of the research side of the institution do not dictate the allocation of indirect cost money received on Federal contracts and grants. Direct cost money in a contract or grant goes to meet the needs of the project. Indirect cost money is institutional overhead money, paid by the government to meet the costs of maintaining the environment within which the project takes place. Part of this overhead is the departmental administrative cost for managing contracts and grants. Thus, theoretically, if this cost is increasing there is federal money to help pay for it.

However, this is not the way indirect cost monies are allocated. The money goes to the Regents, and the state takes 50% of it off the top. The remainder is allocated among the nine campuses. The University uses it to help fund some research institutes on campus, but most of the money goes into student aid, affirmative action, deferred maintenance, discretionary funds for the Chancellor's office, and other items unrelated to research. Thus the Space Sciences Lab received $138,000 in these funds this year, while its awards probably generated over $1.3 million. Thus a campus may not receive as much of this money as its contracts and grants generated, although Berkeley's receipts are about in line with its proportion of total University federal award - approximately 20%. Even if the campus does receive its "share," the money is not necessarily for support of administrative expenses but, as was indicated, into other programs.

From the perspective of the department or college this is exploitation. Investigators are urged to seek contracts and grants; when they are successful the administrative load on their department and college increases, but little or none of their earnings of indirect cost money finds its way back to help meet these expenses. The departmental administrators and lab business officers take all this badly. There are constant complaints along the lines of the following example. The College of Chemistry has had a booming business in contracts and grants; in February the business officer noted that the $4 million brought in during 1975-76 represented a 22% increase, corrected for inflation, over the previous year. He therefore requested an increase of 22% in the College's supplies budget, or $39,000, and in its non-state supported staff budget, of $30,000.

In general, departments and colleges would like to see a portion of indirect cost monies given to those who "earned" it. They have in mind using it to strengthen staff services, to help meet "gap" expenses when award renewals are late, to fill niches where just a little money at the right time might enhance a project or provide an exceptional opportunity for a faculty member or a student. In other words, they would like some of this money to provide a bit more flexibility.

Central administrators can well understand this, for flexibility is exactly the reason they keep the money. The Federal indirect cost funds make a lovely pot of flexible money for the University and the campus. It has been used to meet a wide variety of needs, including a number dictated by federal pressures. But one result has been that there is never enough money to give departments the administrative services they need, either locally or centrally. The business officer in the College of Chemistry believes it would take $500,000 in the first year alone to upgrade the college's administrative capabilities to the necessary extent. Hence the workload at that level has outpaced resources. For instance, one major lab needs a new, computer based, accounting system to keep accounts up to date, prevent overruns, and thereby hold down cost transfers in line with the auditors' attitudes. It believes the government would pay for it, but the campus administration has been trying to develop an improved central administrative data capability that would obviate the need for such local systems. Delays in that endeavor have left the lab saddled with its antiquated arrangements - and thus one principal investigator has run over his award budget by $60 - 90,000 this year.

One option is to insert a charge for departmental or lab administration into each contract or grant, but it is open only to some departments. The Space Sciences Lab charges 4 1/2%. Engineering departments also include administrative costs in project budgets, as does the Electronics Research Lab. But many others find that their agencies won't accept these as legitimate costs. The investigators and departments must cope with any additional work associated with new projects as best they can.

Another option is for University Hall to release more of the indirect cost money for administrative expenses, which is just now beginning to happen. However, the claims on these funds from all sources have been rising steadily and, as the President's letter in May pointed out, the need for some flexible funds is greater than ever now that all funding is more difficult to come by.

Increased workload plus inadequate staff yields insufficient services to the principal investigators. Some of these deficiencies can also lead directly to trouble with the auditors. Business offices now should supply principal investigators with financial statements on their awards at least monthly if not more often, keep much better track of vacation and sick leave accruals, and provide other services which, when neglected, can mean that various costs are eventually disallowed on audit. In other cases, the staff simply stops performing services that it used to; for instance, it may stop closely checking on the progress of an application through an agency on behalf of the investigators.

In one department, for example, the business office no longer provides much assistance to investigators on purchasing. They must now learn the procedures and pore over the catalogs themselves, which is a waste for it means people are constantly having to learn things that others already know but haven't the time to do themselves. In another, the chairman is giving up his secretary so that more staff time will be available to handle the paperwork associated with contracts and grants.

Still other, minor, complaints might be mentioned. Labs that deal with ERDA, NASA, and DOD must occasionally wrestle with these agencies and the FBI over what constitutes adequate security. The CIA or other agencies sometimes press to get certain refugee scientists employed. One lab sought to be placed on the Federal telephone system to cut the huge costs of its constant communication with the agencies, a request denied out of fear that it would lead to excessive phoning.

One assertion made by a number of people long associated with research on campus could be very important but is impossible to document or verify. It is claimed that the paperwork and other bureaucratic burdens associated with research have led valuable scientists to flee to private industry. People in Biochemistry feel that the same thing is happening with students, that the department is seeing more of its best undergraduate majors choose medical school because the rewards are more commensurate with the workload and regulation.

Students working with their professors can readily see some of the burdens of regulation and paperwork. An anthropologist estimates that 10% of his time is spent on regulation-induced administration; another investigator now assigns one of her technicians the chore of listing all purchases and their approximate prices for her one grant, a job that wasn't necessary at all a few years ago but now takes about $5,000 worth of that technician's time; another estimates that 20% of his grant goes to pay for administrative expenses, and he has just converted a technician's slot into a secretarial position to handle the increased paperwork. Even the Office of Naval Research representative on campus, who sees a certain degree of reporting as absolutely vital, finds that the new requirements turn investigators into "bookkeepers".

Time and effort reporting is a minor but persistently annoying chore. At present the allocation of a principal investigator's time must be certified monthly, although the University has been pressing to have this changed to quarterly. A study at UC San Diego estimated that up to $500,000 in faculty and administrative time goes into this, and the figure could not be any less at Berkeley and probably is much higher. The recent University survey on the indirect administrative workload is not complete, but preliminary indications are that 10-12% of departmental expenses are accounted for in contract and grant administration across the University.

One hidden effect of the regulations, but a real one, is the increased friction between the faculty engaged in research and various administrative departments. The Accounting office catches fire from the faculty for its many forms and intricate approval systems imposed to keep the campus in compliance with federal requirements. Caught in between are the department and college business officers who must serve two masters, the central departments that manage accounts, purchases, property, etc. and the faculty whose endeavors they are there to facilitate. Faculty are constantly complaining about campus and University purchasing forms and regulations. The new policy on submitting purchase orders no less than 120 days before the end of an award brought a dozen frosty letters from faculty, business officers, and one faculty committee.

This conflict tends to bring out into the open the differing perspectives of various levels and agencies on campus and in the University. Generally speaking, the University and campus business affairs people are sympathetic to faculty complaints but not entirely so; they live in a world where the proper accounting for money is the essence of good management, and they don't find the federal government's desire to keep track of its money all that unreasonable. They also hate getting caught in embarrassing dialogs with auditors due to faculty fiscal indiscretions. Also, like all good and established officials they adjust and cope more than resist and rebel, in the face of federal pressures.

The faculty live in a world where money management is a distinctly secondary enterprise. They want maximum flexibility and discretion, even as they readily admit that accountability is, in principle, a reasonable requirement. They not only find federal requirements intrusive and counterproductive, they see the administrators as not feisty enough in defense of the campus interest. The administrators are believed to yield too readily, to carry compliance too far, and thus to be guilty of a kind of collusion in the imposition of regulation.

An old maxim of organizational and bureaucratic politics is that "where you stand depends on where you sit". These differing views between sections of the campus are inevitable and understandable.

But as the pressure of regulation grows, the frictions associated with them grows. This is not a healthy development. One of the attractions of life in an educational institution has always been a civilized interchange among its parts, creating a working atmosphere attractive enough to offset the financial sacrifices that everyone accepts when they are hired. Developments which subtly undermine that atmosphere damage the institution in ways easily detected only in retrospect, sometimes when it is too late to salvage one of the assets of academe.

It would not be right to end this section without stressing once again that there are important benefits that come from being forced to tighten up administration and accounting. (However, a good deal of this can be obtained by the natural pressure of institutional self interest in a time of steady state resources for higher education, without a lot of extra regulation.) It would also be wrong to suggest that everyone on campus shares the generally unhappy view of federal regulation outlined above. There is at least one major research unit on campus where the director and the business officer do not find federal regulations unduly burdensome. They argue that there is a lot of money involved and the government is entitled to know how it is spent, and in their view there is much waste or mismanagement connected with federal funds on campus which the regulations help contain. The costs of regulation can be lived with, the costs of reports can be included in project proposals, and federal officials are not rigid, but do allow exceptions or adjustments and listen to honest requests and complaints. Finally, they make the not unfounded assertion that, when left alone, the University and the campus install equally or more burdensome requirements in pursuit of accountability.

They take fluctuations in levels of research support in stride, arguing that on major projects its negligible and that in any case it's a fact of life the researcher lives with. They shrug off the occasional peremptory tone or veiled threats issued by agencies as bureaucratic games playing. Even the new campus policy on no procurements within the last 120 days of an award is not unreasonable -

those departments that have trouble will be ones that are mismanaged, or not always honest about equipment purchases, or ones where the faculty haven't taken the time to learn and conform to the regulations - leading to efforts at manipulation in order to cover up their errors and bad records.

While this is a view that is seldom heard on campus, it would be very disappointing if no one could see the government's side in an institution devoted to being open to many points of view. Also, hardly anyone rejects the general notion of accountability. This suggests that it might be possible to find sufficient points of agreement between the campus and the governemnt to work out a better balance between their needs.

Concluding Comments on Research

Great American universities are research oriented. This was not always true, nor is it always regarded as wise. Often students do not like it, some faculty do not like it, but it has been true for so long it is now hard to imagine we could change it. Uncovering new knowledge has become the core of our conception of a great university, and the government has largely made it so by seeking to have research done and by supplying the bulk of the financial resources necessary for it. A sharp reduction in federal research spending at universities would have a revolutionary effect, or perhaps "regressive" is a better word, for it would push institutions back toward what they were in an earlier time.

By indirectly fostering this conception of a university, the government affected far more than those departments that directly receive federal funds, for the notion that research is a contribution expected of every faculty member has spread to every department. Good teaching has become the minimum required, with successful research the extra achievement that justifies a faculty member's retention and advancement. Indices of achievement have been borrowed from the first heavily research oriented disciplines - publications, getting external support, winning prestigious awards - and applied in all the others.

Aside from the benefits of new knowledge, about which there is always debate, the greatest attraction of this development has been that, apart from the funding, these centers of research have remained relatively autonomous and have developed a self-sustaining commitment to research. They are not in the business of doing research to sustain some other activity, as is most corporate research, nor are they in business to do the research someone else wants done, like a think tank. They have come to think of themselves as doing research because research is what they do; teaching takes learning, learning means research, research feeds teaching and public service, and so on. This research thus takes on a life of its own; anyone and everyone may make use of it, but it has no purely instrumental purpose. That is the contribution that the autonomy of these academic institutions makes to the enterprise.

Bits and pieces of this perspective have been illuminated in the discussion in this section. The faculty member who thinks of the government's money almost as a gift shares it. Those who fear excessive government preoccupation with applied research, or immediate pay-offs, display it. The complaint that the government imposes controls like it was buying a product, reflects it. Within these universities research has come to be viewed much like the arts, as something of intrinsic value that society ought to sustain in the somewhat detached manner of a patron. One does not dictate art, one sustains the artist so that he may contribute to the general welfare. So it should be with research and, as with the artist, there is nothing gained by compromising the essential freedom of the investigator.

Government, particularly democratic government, finds it hard to serve as a disinterested patron of anything. This is particularly true with respect to scientific research because it can have such widespread, highly utilitarian outcomes, and because it costs so much. It is not surprising that the government does not see the research it supports in the same way the universities do; it does not normally see art the way artists do. But in recent years the gap between the two perspectives appears to have widened, not only in terms of what the government will support but in how it tries to control the use of its funds. A once flourishing relationship has gone a bit sour, and as a society we should attend to it if its central features are worth preserving.

It is from this rather lofty perspective that we may briefly review some of recent specific proposals or recommendations that have been considered at Berkeley (and at many other institutions) for improving the relationship between the campus and the government. All of them represent an attempt to combine autonomy with accountability.

Improving Internal Procedures

A consistent theme in University and campus analyses of recent difficulties with the government is that all is not well when it comes to institutional operations. The summary report on nine Research Management Improvement Project (RMIP)[13] studies which explored the impact of federal regulations, offers as one of its basic principles for the government-institution partnership that "there should be a continuing systematic effort by universities to correct the inadequacies of their institutional planning and administrative systems ..." Many of those individual reports go into some detail on the need for better accounting and information systems, improvements in inventory practices, better efforts to clarify faculty responsibilities, less burdensome forms and procedures, and more effort to communicate with federal agencies.

The University's accounting firm, in its report on the audit controversy, suggested that high priority be given to "new and more meaningful methods of departmental accounting," that procedures on vacation accruals be modified, that a new system of quarterly projections of departments' anticipated expenditures be tried (to prevent overruns), and that the policy be changed on establishing a new account on a continuing award only after official notification arrives. It also suggested that the University reconsider the allocation of indirect cost funds, and that new efforts be made to get investigators to take contract and grant responbilities more seriously.

The new University and campus policies on cost transfers, consulting, equipment screening,and late purchases were described. Many departments and investigators have expressed an interest in trying to find ways to be more "accountable". In other words, Berkeley is not wedded to old ways where it can be shown that there are better ones. This should be an important element in any overall review of the government's impact on the universities in research.

Standardizing and Clarifying Federal Requirements

This section of the report has noted numerous places where federal regulations are complex, unclear, and not entirely complementary. Everyone would like to see an improvement here, simplifying procurement regulations, dropping some of the boilerplate in contracts, standardizing required reporting, mandating common forms, and the like. A-110 is something of a disappointment in this respect.

The lack of standard, clear requirements has several effects. More work results to prepare roughly the same information for different reports. More staff is needed when people must specialize because agency regulations are different. When regulations are unclear time is lost in getting applicable interpretations, and there is a tendency to adopt the most conservative, i.e. restrictive, view in order to stay out of trouble later on.

However, no one here has any bright ideas on how to get agencies to cooperate with each other to the necessary degree. One investigator has suggested that the agencies be required to do the equivalent of an environmental impact report on the probable effects of any new regulation. Proposals to this effect have been made in Congress as well, and it is one of the underlying ideas in having OMB-required reviews of certain new forms. It is hard to be optimistic that much will come of this.

Shifting the Focus of Administrative Responsibility

Various reform proposals turn on the notion that the government should rely more heavily on institutions policing themselves. The RMIP summary report points out that "the key issue is where the preponderant balance of administrative responsibility should be placed - with the agency or with the university" and that "where requirements are detailed and strict, a greater degree of administrative responsibility is retained by the agency."

In many ways, the government has failed to take advantage of the "steady-state" conditions in which universities find themselves. When research and education were booming, universities could affort to be a bit lax and the government could afford to tolerate that fact. Now that the boom is over the government is interested in better stewardship but has set about getting it by undertaking detailed scrutiny and elaborate control, when the universities' own self interests now dictate it. The government could get the same result at much less expense and with a good deal less friction. And there is something a bit silly in accepting the principal investigator's signature to institute a $2 million contract and then requiring that his judgment be checked on a $2,000 purchase.

Thus there is much to be said for the RMIP summary report's suggestion that the government try to minimize its administrative control and required record keeping, while auditing the universities' administrative systems and engaging in detailed audits of individual transactions only in exceptional cases where those systems are inadequate. This appears to work in the PHS "institutional approval system" on procurements, and should do so in other areas as well. This would include raising the various limits on required prior approvals in procurements.

However, this will not necessarily alter a trend toward centralization at Berkeley (and in other institutions) in some aspects of research, and might even accelerate it. In human subjects, animal subjects, and DNA new central review and control mechanisms have emerged. In procurements, federal regulations have helped reverse a long trend toward decentralizing purchasing on campus. The same thing is happening to a certain extent in relations between Accounting and the departments. The new policies on consulting and late purchases have a similar effect. Once the campus was left responsible in these areas it might well conclude that there is too much at stake to return to the old ways giving departments and investigators free rein. In other words, institutions should not expect that having more responsibility in their hands will arrest encroachments on faculty and departmental autonomy in research matters. It would simply reduce direct external or externally mandated encroachments. The problem of autonomy would remain, exacerbated as it is by pressures of contemporary financial stringencies.

The Fixed Price Contract

The University's accounting firm, and various people on campus, have suggested that consideration be given to "inflation adjusted fixed price contracts" for research. The University and the government agree on a price, any overrun is covered by the University and it retains any extra money. Thus it is up to the University to see to financial controls, arrange for cost transfers, and the like, avoiding most of the administrative complexities of dealing with the government. The University could operate far more flexibly under such a system, designing administrative arrangements to hold down costs and better fit the nature of the institution.

While some people react enthusiastically to this idea, there are others on campus who express strong reservations. Many faculty are opposed to any steps in the direction of large grants to the University, the campus, or a department for reallocation, rather than to the individual faculty member, and they fear that a fixed price contract system would be such a step. The same considerations of institutional autonomy that make a fixed price contract system attractive would support, by extension, shifting to fewer and larger awards.

Their concerns are varied. Some stress the importance of having research funding on campus constantly subject to the astringent effects of competitive peer review by others in the field elsewhere. There is also the argument that with only institutional controls, deadlines, and requirements there is a tendency to get sloppy. There is the fear that internal reallocation would be dictated by institutional or departmental politics and personality clashes rather than just the intellectual merits of proposals. There are those who savor the fact that the present system breeds faculty entrepreneurs in a highly competitive environment, which bolsters their autonomy while subjecting their work to a repeated and rigorous review. Too many who are second rate would be carried under the less harsh and demanding standards one sets for friends and colleagues.

Others on campus find this solution, whatever its theoretical strengths and weaknesses, irrelevant because the government is not about to accept it. They point out that a sea change in government attitudes would be required, and that the government is likely to continue to see sponsored research as something of a favor to the institution (paying for research the faculty want to do anyway) which entitles it to assert some control and set some expectations. It also means making research look very much like a "product", produced by an institution for a price, and as explained earlier this is contrary to the way institutions and investigators like to depict research and how they expect others to view it.

Thus this is a subject worth exploring, but with considerable care. It might offer a relatively simple way to restructure the entire relationship between the government and the institution on research, but the ultimate consequences might be pernicious.

1. Eugene Millstein, The DHEW Requirements for the Protection of Human Subjects: Analysis and Impact at the University of Californai, Berkeley. Research Improvement Project. Berkeley, July 1974, pp. 18-19.

2. Thomas Killen Dalglish, Protecting Human Subjects in Social And Behavioral Research: Ethics, Law, and the DHEW Rules: A Critique Center for Research in Management Science, University of California, Berkeley, May 1976.

3. Ibid., p. 262

4. Ibid., p. 544

5. Ibid., p. 534

6. Millstein, (note 1).

7. Dalglish, (note 2) pp. 539-540.

8. Phyllis Trudeau and Norman Gross, Financial Management: Budget and Reporting under Federal Contracts and Grants Research Management Improvement Program, Berkeley, June 1976.

9. It should be noted that a comparison of FMC 73-8 with FMC 74-4 Attachment A, "Principles for Determining Costs Applicable to Grants and Contracts With State and Local Governments", leaves the distinct impression that state and local governments face less cumbersome requirements and can have a larger share of their costs covered. For instance, FMC 73-8 makes no mention of costs of legal services, procurement services, management studies, accounting, or audits as allowable, unlike FMC 74-4.

10. John A. Perkins, Herman D. Johnson, Robert F. Kerley, The Impact of Federal Regulations on Research Management in Colleges and Universities: Overview and Summaries Research Management Improvement Project, Berkeley, July 1976.

11. Earl Irvin and Arthur Jebens, Property Management Research Management Improvement Project Berkeley, September 1974 pp. 23-24.

12. Ibid., pp. 35-37

13. Perkins, Johnson, Kerley, (note 10).

PART SEVEN

PRIVACY AND CAMPUS RECORDS

Recent regulation at the federal and state levels concerned with access to records has caused no end of difficulty on campus. The aims of the legislation are above reproach: to allow people to see information about them contained in institutional records, and to give them knowledge about and control over who else sees that information and for what purpose. In designing such legislation it may be vital to know virtually nothing about how academic institutions work, which appears to have been true of the sponsors of these bills. Any attempt to satisfactorily encompass the legitimate needs of people who compile, process, and use records with those of people the records are about would almost certainly have collapsed under the weight of the endless problems and details, necessary compromises, and technological possibilities, that would have emerged. Legislators have just bashed ahead in the name of privacy and individual rights, leaving institutions to pick up the pieces strewn about. It may be that this is all for the best, that we are on the right track and it is better to be moving along in spite of the costs and difficulties, than sitting back in the station immobilized by them. However, it does not hurt to have a record of some of these difficulties, particularly when they arise out of clashes between the claims of privacy with other values long cherished.

I The Privacy Act of 1974

The Privacy Act became effective in 1975, and its prime target was the federal government. The objective was to give an individual the right to learn what records government agencies were keeping on him, to have access to those records, and to prevent their use for a purpose other than the original one without his consent. All agencies have had to develop implementing regulations.

Only two sections of the act have been of immediate concern to the University and the campus. One provides that the Act applies when a government contractor maintains "a system of records to accomplish an agency function". If that provision was defined very broadly, then numerous University and campus records on contracts and grants would fall under the jurisdiction of the Act and Berkeley would be subject to the many requirements on access, prior notice, publication of rules, etc. under which federal agencies must labor. Sure enough, someone offered such a broad definition in 1976, the someone being an HEW agency. The University protested and HEW's General Counsel has ruled the Act is not applicable, on the grounds that records relating to contracts and grants are not ones that would otherwise be kept by a federal agency - only where records are kept by a contractor in lieu of ones the agency would normally maintain would the Act apply. That is where the matter now stands.

However, another section of the Act does apply. This is the provision limiting use of Social Security Numbers (SSN) by "any Federal, State or local government agency", which encompasses the University. The Act provides that if the campus requires the SSN of an individual because some federal statute mandates it, or as part of a system of records established and in operation before January 1, 1975, it may continue to do so. But in requiring the number the campus must point out to the individual whether it is mandatory or voluntary, what law or regulation leads to it being requested, and what use is to be made of it. Aside from the above exceptions, the Act bars requiring an individual to submit his SSN to enjoy "any right, benefit, or privilege."

This immediately spun snarls in campus practices because the SSN has been quite widely used. Either the forms on which the number is requested had to be rewritten, or steps had to be taken to attach the required notice to the forms. For example, on all financial aid and undergraduate admissions forms the following notice has been added

> Pursuant to Section 7 of the Privacy Act of 1974, applicants for student financial aid or benefits are hereby notified that mandatory disclosure of their Social Security Number is required by the University of California to verify the identity of each applicant. Social Security Numbers are used in processing the data given in the financial aid application; in the awarding of funds; in the coordination of information with applications for Federal, State, University and private awards or benefits, and in the collection of funds and tracing of individuals who have borrowed funds from Federal, State, University, or private loan programs.

It has also been included in or with graduate admission forms where the number is requested. Of course, it costs something to redesign or reprint such forms or to add the notice separately.

Nor is this the only place where notification is needed. On purchase orders, the University has requested vendor SSNs or Employer Identification Numbers to meet IRS rules. Thus purchase order forms have been revised to include the following:

> Pursuant to Federal Privacy Act of 1974, you are hereby notified that disclosure of your Social Security Number is mandatory. Disclosure of the Social Security Number is required pursuant to Section 6011 and 6051 of Subtitle F of the Internal Revenue Code and Regulation 4, Section 404, 1256, Code of Federal Regulations, under Section 218, Title II of the Social Security Act, as amended. The Social Security Number is used to verify your identity. The principal uses of the Number shall be to report payments to Federal and State governments.

It takes some fairly high priced talent to dig out all of the relevant legislation and properly draft such notices. It will take more to revise the notices whenever the applicable laws or regulations under which the SSN is required are changed, or if the uses to which the SSN is put change, or if the request for the SSN shifts from mandatory to voluntary or vice-versa - and any such changes will mean reprinting the forms.

This provision of the Privacy Act was of little assistance in resolving an old problem that has bedeviled the University and the campus for years. When files are kept on students or employees, life is a lot simpler if some easy way exists of identifying each one, something handy for both people and machines. Not only does this make it easier to find and use any one file, it facilitates keeping track of and drawing on multiple files on a single individual. The obvious solution is to assign everyone a number, one with enough digits to capture various information in it and also make each number unique. One such number already exists for most people, their Social Security Number. The University and the campus already have to collect SSNs from employees, for tax purposes, and from students applying for financial aid. Thus a superficially attractive solution is to use SSNs as the unique identifier for all campus and University records.

In higher education, nothing is ever that simple. The old Social Security law has a clause barring use of the number as a national identifier, for the perfectly good reason that if everyone had a number and it was used as the single identifier the power of the government to keep track of everyone, to pull together information held about someone in widely scattered files, would be immensely enhanced. That clause has been largely honored in the breech over the years, because the existence of such a unique number is so compellingly convenient, but the concerns that prompted it have never died.

Thus whenever the University and the campus considered adopting the SSN as a unique identifier, people have objected. A new effort to design a system giving all University employees, and students a unique identification number began in 1975. It has been conditioned throughout by objections to SSN and by state and federal legislative developments expressing growing concern over possible invasions of privacy. The complaints about the Social Security Number include:

1) the SSN is fairly powerful. Certain digits contain information about an individual already.
2) it is not unique. Over 4 million people have two or more Social Security Numbers. Also, an individual can have his or her number changed.
3) it is of little help when someone doesn't already have one. While waiting for the number to be assigned a separate file on such a person must be kept.
4) the law is in flux. Hundreds of bills have been introduced in Congress that deal with privacy, and the state legislature has had over one hundred such bills pending in the last few years. Some, like the Privacy Act, would place serious restrictions on the use of the number.

However, many campus and University officials would very much like a unique identifier. If it can't be the SSN, then they want a separate system. They point out that at present on the campus some offices use the Social Security Number, some use dummy SSNs (in case they have to shift to using real ones, or for students who don't yet have an SSN), some use campus employee numbers, some use roster numbers. Because of this profusion of numbers it is difficult to match files and often this must be done manually, which is costly and invites errors. For example, many federal requirements pertain to verifying and reporting registration of financial aid applicants, which is easy if a student's number is the same for both aid and registration records, but at Berkeley it isn't the same. A University committee identified numerous other difficulties:

> It ... becomes clear why the University has record matching problems, duplicate records for the same individual (even within the same system), and missing records for other individuals. It is virtually impossible to track an individual over time or between campuses with any degree of certainty. Data for reporting or for budgeting and planning purposes is often inaccurate or unavailable. Currently, for instance, there is no good way of knowing how many of our employees are students and vice versa, or even, for that matter, how many people the University employs because split appointments are not so identified and result in a double counting ...

Thus the University is headed in the direction of developing an alternative numbering system. But progress has been slow, in part because Federal law is unclear. It would be better, in some ways, if there was simply a flat prohibition on using the SSN for anything other than Social Security matters. There is a still larger problem. Is it wise for a University to be moving to simplify record collection and retrieval when the thrust of federal (and state) policy is in the opposite direction? No one can say for sure.

II The Family Educational Rights and Privacy Act

Of all the regulations pertaining to the campus, none is more despised than the Buckley Amendment. It is always cited as an outstanding example of inept legislation which imposes a variety of burdens for few offsetting benefits. It has three objectives: to grant a student access to his records, allow him to challenge records that he feels are incorrect, and allow him to restrict release of part or all of those records to others. Neither is provided for without raising all sorts of problems.

The original Buckley Amendment was passed in 1974 and revised since. At that time the University was operating under a policy on student records going back to 1969. In response to Buckley it released interim guidelines in November 1979, revised interim guidelines in December 1974, further revised guidelines in March 1976, and the most recent policy in February 1977. Campus policy on student records has gone through parallel revisions and rerevisions. In doing this University and campus officials have put in a considerable amount of time and effort.

Notification

A good summary of Buckley can be obtained simply by reviewing the notification requirements. One of its provisions is that students be informed of their rights concerning their records and how they may exercise those rights. Thus the University and campus have had to order publication and distribution of the following information:

1) the student's right to inspect his or her records;
2) the student's right to bar disclosure of personal information;
3) the student's right to see campus records concerning who has had access to his or her file;
4) the student's right to seek to correct a file, and the process by which one goes about doing so;
5) the student's option to complain to HEW about alleged violations of these rights
6) the location of University and campus policies on student records;
7) where the text of Buckley can be found;
8) the types and locations of student records on campus, and the officials responsible for them;
9) the cost charged for reproducing any of the student's records;
10) the categories of information a department or the campus intends to give out as public information, unless the student wishes any of it withheld;
11) the name of a campus official the student may contact for information about rights and policies on student records.

There is no sure way to be certain students get notice of all these things short of individually contacting each one. Notices are now inserted in many official university publications, included in registration procedures, posted in public places, etc. Students must be informed annually by University policy, quarterly under campus policy. The need to list all of the places where student records are kept and have all such places put out notices is particularly troublesome because there are so many and they are to be found all over the campus. The campus legal advisor has had to conduct a series of meetings with departmental secretaries to outline the University and campus policies.

Access by Students

In order to provide access, the campus and the University were compelled to work out several troublesome questions. One is the question of who, exactly, is a "student"? It is easy to count those who have been admitted and have enrolled or registered. But what about those who apply for admission and are not accepted? At first it might seem they are not students, and have no access rights. But if they apply to Berkeley from another UC campus they are, at the time of application, University students; and if they are Berkeley undergraduates applying at a Berkeley graduate program, then they are campus students. This would mean that UC and Berkeley applicants clearly had access rights and others didn't. It would also mean that successful applicants, once admitted, had access rights but not the ones who were turned down (who might most wish to see their files). Such anomalies are not comforting, so University policy now provides that any applicant may inspect admissions records that pertain to him. However, he does not have a set process for challenging the contents of his file, like an enrolled student does, and records that were supplied on the understanding that they would be confidential remain so, whether or not the applicant waived his right to see them. (These narrower rights of access are defined by the California Public Records Act.) This is a recent extension of the policy, illustrating how the scope of Buckley and related legislation has grown. The amended version of Buckley now defines a "student" by college or department; thus a Berkeley undergraduate applying to a Berkeley professional school is an applicant, not a student, in terms of access rights.

What about former students? The University's current policy is ambiguous on this point, merely referring to a student as anyone "who has been" admitted and enrolled or registered. The campus has taken the view that once students leave school they retain their rights of access. This is in keeping with the fact that Buckley grants a student the right, as we shall see, to withhold disclosure of information from his file after he has left school. Thus the category of "student" gets larger and larger, as do the potential requests.

Next, someone had to decide what information in files could not be shown to students. Some of the information was obtained under promise of confidentiality. Some, if disclosed, would violate other people's rights of privacy. Some records on students are not exactly student records. The following list of the kinds of information not to be given out to students under HEW regulations and current University and campus policies illustrates judgments that had to be made:

1) financial information, records, and statements of the student's parents - unless the parents give their consent in writing.
2) any confidential information about others - the student can only inspect information about himself.
3) confidential letters and recommendations placed in the student's files prior to January 1, 1975 - unless the author has supplied written consent to release them.
4) confidential letters and recommendations after January 1, 1975 which the student has waived his right to see.
5) information in the personal possession of faculty and administrators, which doesn't appear in official files, and which isn't revealed for other purposes - this would include personal notations and evaluations on students in courses.
6) employee records - those used solely for employment purposes unrelated to academic matters. However, employee records are accessible when the employment is the result of the person's status as a student, as in the case of a TA or RA.
7) records of physicians, psychiatrists, or psychologists in connection with treatment of a student.

8) information on a former student gathered on his activities after he left school - alumni records. (It seems unlikely that alumni will never be allowed access to alumni records).
9) campus police records - when those records are considered not to be a part of the student records. If the campus designates them as being student records, then students can have access.

These are rather elaborate restrictions on the information the student may see. Thus before a student can see his file it must be screened by an official. If information he is entitled to have is too intertwined with information he cannot see, then someone must prepare a summary of the former. Obviously, this would be extremely burdensome if a great many people chose to request access to their files.

How does this work out in practice? The Office of Admissions and Records, for example, gets a small number of requests much of the year, but can have as many as ten per day near the beginning of each quarter. University policy now requires that these requests be honored within 15 days. Normally it is easy to locate a file, unless it is a request for access to an inactive one for a former student. Requests come for various reasons. Some students really want to know what is in their files. But most either want a copy of their transcript without having to pay for it, or a copy of elements in their file for an advisor or counselor when they entered too late to have the file sent by normal channels. The student can see the file and have portions copied, but can't remove it. If the student copies the transcript, OAR stamps a notice declaring it to be unofficial and released in accordance with Buckley. This is an attempt to combat the altering of transcripts, and to retain the campus sanction of not releasing a student's transcript for non-payment of fees.

The Graduate Division receives some three or four requests per month. Each is referred to an Associate Dean, for a file must be carefully examined to extract confidential information about others.

Problems occasionally arise with undated notes in the file, making it unclear whether the item was inserted in the expectation of confidence prior to January 1, 1975 and thus cannot be shown to the student.

There is another access right that a student possesses. Campus departments must keep a record of many of the requests to see a student's file that can be honored without his consent, and the student may see this record. The record is supposed to indicate not only who asked for the information but why they had a legitimate reason for obtaining it, plus the dates of the requests and of the release of the information. The Graduate Division has noticed a problem here. Normally, the procedure followed would be to insert a notice of any request in the student's file. If the Educational Testing Service or other researchers request information from student files for legitimate, worthwhile studies, they may use thousands of files, which would require the same number of notices, which would be a lot of work. The Graduate Division hopes posting of a general notice on such studies will suffice.

It is worth digressing a moment to consider what happens in such a study. ETS may collect information on test scores and grades from numerous files in order to trace correlations between the two. It may extract information on race, sex, age, prior education, family income, etc. because possible correlations between these variables and test scores or grades can be of enormous interest. The campus treats these as legitimate exceptions to the Buckley requirement of prior student approval, but it is by no means clear that students would agree. Given the many criticisms of standardized testing by some groups, a number of students might wish to ban use of their files in this way - which could cripple these studies. Down the road at some point, Berkeley may face criticism for both failing to give students prior notification, and for not keeping a precise record of who had access to exactly which files in these studies. Yet to avoid the criticism it would have to accept costly administrative changes and risk damage to valuable research.

OAR and the Graduate Division report very little change in the items of information inserted in the files, and this probably applies in other student records as well. However, the content of some of those items has changed. The most widely cited impact of Buckley is on the letters of recommendation, a view Berkeley shares with other campuses. Originally, Buckley allowed the student to waive his right to inspect a recommendation; Berkeley (and other schools) arranged to have evidence on whether the student had signed a waiver made a part of the letter of recommendation. However, recent state legislation has forced adoption of a policy under which a student may waive his right to inspect but this fact can be made known only to the person writing the recommendation and the person who maintains the student's file. In other words, one who reads the recommendation should not know, one way or the other, about the waiver.

There are at least three problems with all this. Where the student does not waive his right to inspect, faculty are increasingly reluctant to write anything other than pap. As one faculty member put it, "I will no longer ever write an unfavorable recommendation on a student." Faculty have noted a tendency to shift to phone calls or conversations to convey meaningful information about students which, as some have pointed out, clearly defeats the purpose of Buckley.

This might be avoided if both writer and reader of a recommendation knew it was confidential. This is where the ban on letting the reader learn of a waiver comes in. The ban was inserted so a reader would not automatically discount letters written when no waiver applied, for as long as this happened the student was virtually compelled to sign the waiver. However, if the reader doesn't know, he can't decide how to treat an excellent recommendation; the only ones he could be reasonably sure about are critical or uncomplimentary ones. The rest he discounts.

The third problem is related. In many graduate departments, the key person on admissions decisions - the Graduate Advisor -

also keeps the files. This means one of the persons who reads a recommendation for deciding on admission knows whether the student waived his right of inspection. This problem and the preceding one are pushing this campus toward simply declaring all recommendations to be non-confidential documents, which is the way many faculty now treat them anyway. One can hardly blame faculty, when various lawsuits have been instituted around the country by disgruntled students who feel an unfair recommendation denied them admission or employment.

This will destroy any shred of utility and credibility in recommendations. For a long time they have not been terribly useful because students get to pick who writes them, and because they have grown increasingly inflated in their praise. However, until recently they still were somewhat valuable when one read between the lines, and where negative comments appeared. The Graduate Division is particularly unhappy because this development has paralleled the erosion of grading standards and attacks on standardized tests, taking away the value of the traditional admissions criteria. Down this road lies admission by lottery.

Access by Others

The Buckley Amendment also restricts access to a student's records by others without his consent. The problems here are at least as severe as those concerning recommendations, but receive a lot less publicity.

The most immediate problem concerns "directory" information, information that would normally be public on all students who are registered. Now the campus must notify students concerning the information it proposes to treat in this fashion. Actually campus policy merely lists categories of information that offices and departments "may" consider to be directory:

the name of the student;
dates of attendance;
major or field of study;

degree(s) granted and date(s);
awards;
participation in recognized sports and activities;
weight and height of athletic team members;
date of birth, place of birth;
prior educational institutions attended;

These are routine items of information, released for years with no noticeable harm to anyone. But under Buckley, each student has the right to prevent release of any or all of this information. Not only that, he can prevent release after he has graduated. This creates some rediculous situations.

During the last fall registration period OAR let students indicate if they wanted certain directory information withheld, primarily phone number and address although it also asked about all basic information for the public directory. This was done by providing cards, with appropriate boxes to check, in registration packets. Some 7,000 students opted to have addresses and telephone numbers withheld. This induced dismay and confusion. If such a large percentage of students take this action it is hardly worthwhile publishing a directory. On the other hand, almost all of these students supplied the same information on other cards that will result in it being made public anyway. This suggests students were not serious about withholding the information, or did not fully understand what they were doing. Does this mean the campus should ignore their requests?

For years Berkeley has had a home town press service, in which directory information about students, or items on their special achievements or honors, were sent to their local newspapers and other media. Now this cannot be done automatically. Notice that a student had been accepted by Phi Beta Kappa used to go not only to local media but to the state legislators from that student's area; now the Public Affairs office must get each of these students to agree this is acceptable.

If a student bars release of directory information, the campus cannot even indicate if he is registered. This produces silly confrontations with the media or employers, who ask if so-and-so is a student and the campus replies it cannot release that information. Experienced reporters have quickly learned that Berkeley can always say that so-and-so is not a student (when he isn't enrolled), so they get the answer to their question and the campus is made to look bureaucratic and uncooperative. The Public Affirs office dislikes poisoning media relations in this way, particularly since the campus has for years held "sensitive" files in extreme confidence and (since the Patty Hearst kidnapping) not given out the addresses of prominent students.

A student can bar release of information about himself after graduation. This puts the campus in the business of giving out secret degrees. Sometimes students will designate a particular person or class of persons to whom information is not to be released. This most often occurs when they are applying for jobs and suspect the employers will think them overqualified, and soon to move on, if they know about the students' degrees. The Office of Admissions and Records reports it gets 10 to 12 such requests each year. This makes the campus party to a deliberate, if somewhat understandable, deception. It runs contrary to the traditional University function of publicly certifying the progress of students for the rest of society, and it contradicts the traditional openness of higher education institutions.

Further complications arise because a student can change his instructions to the campus every quarter. If this happens, what about during the summer? Do his last instructions always hold until altered? What if the student mandates non-disclosure but then makes statements to the media or in public forums that give out the information - can this be taken as evidence the student has decided not to keep the information confidential so the campus can now release it?

Really sticky problems arise for the Campus Police. The Police had an awkward choice to make right at the start. If their records were designated campus student records, then they could have access to other files of students on campus without the students' written consent. Obviously, this is very convenient and would greatly facilitate the work of the Police. However, this could mean giving students access to their Police files. It would also place the Police under the same restrictions on releasing information on students to third parties that apply to all other student records - the student's permission must be secured, severely restricting cooperation with other law enforcement agencies. For instance, if a student was arrested by the local police, or a crime committed on campus by a student, the Police would be restricted in the information they could give to their city confreres. Naturally, this damages certain elements in town-gown relations.

The other alternative was to have Campus Police records declared not a part of student records. Under this arrangement, there would be no student right of access to files and cooperation with local law enforcement could be more extensive. Nonetheless, disclosure to local police would still be limited by the fact that the point of Buckley is to enhance confidentiality of student records - compliance with the spirit of the law would mean not fully opening one's books to external law enforcement agencies. In fact, the Police believe they could have shared information only with an agency with clear jurisdiction, i.e. the local police, not state and federal authorities. Police access to other campus files on students would be sharply restricted, to the point where a subpoena would probably be required.

The Campus Police chose the first option (on all other UC campuses the police chose the second). Their records became part of campus student records. The FBI or other agencies can have information from the Police files only after notifying the student and getting either his permission or a subpoena. This works a bit awkwardly at 2 A.M., when a lot of police business occurs, so there is some slippage here.

This decision to be a part of campus records placed the Campus Police in yet another dilemma. State law quite clearly mandates that Campus Police files be open to other law enforcement agencies that have a legitimate interest (for example, to make photographs or fingerprints available). It also requires that the Campus Police submit various reports based on the files, and that all arrests be a matter of public record. Berkeley has for years routinely issued a daily record of police activity listing arrests to the media, as municipal police departments do. This protects the public against police secrecy and the Police against charges of secrecy and harassment. The trouble is that under Buckley a student could order that no information about himself be given out, even on the daily record. Without the student's consent Buckley does permit information to be disclosed, pursuant to laws passed prior to November 19, 1974. The trouble arises with any requirements imposed by the state since then. He might bar use of his file in reports to the state on the incidence of various crimes or of arrest patterns, (and every year, the state adds to the required reports). The dilemma: comply with Buckley or with California law. The Police have chosen to violate Buckley - to publish the arrest record and submit required state reports.

This problem arose most recently when 58 people were arrested during a sit-in this spring. 28 were non-students, and the arrests were handled normally. But what was the proper reply when the press asked who was arrested? The solution was to refer them to the daily record.

As the above example suggests, the Campus Police have had to set up two separate systems, one for student files and one for those of non-students (90% of arrests are of non students). The system on student files offers far less access to media or law enforcement agencies. Of course, any dual system imposes greater costs and complications. And there are an infinity of possible problems. What about the person who has been accepted but isn't yet registered? What about the person who was a student last quarter but isn't this quarter? What about the student who is also an employee? The Police now treat him as an employee, and thus cooperate with other law enforcement agencies in ways it would not for a student - but no one is at all sure this is legal under Buckley. What about access by police on one UC campus to student records on another - is the UC one system, including the police or is it (under Buckley) nine autonomous campuses? It's not surprising that the Buckley Amendment provides no answers, for the people who drafted it had no idea these sorts of problems would arise. Ignorance is not only bliss, it is sometimes legislation.

Problems like these have led Berkeley to comply with the letter of the law on notifying a student of his rights but not the spirit. The campus now tries to talk students out of any decision to withhold access to information, requiring a special effort on the student's part to get such a decision implemented. The University's policy statement on notification of students of their Buckley rights suggests each campus use graphic examples of how a student request to prevent disclosure can harm the student's interests.

The campus also wishes to talk students out of limiting disclosure because of onerous costs that would be involved in fully implementing this right. If lots of students elect to do this, then a "yes-no" character must be added for every piece of information in the file ("yes" for disclosure) and every computer program changed accordingly. University Hall recently proposed to do this for the central data system, at a project cost of 560 hours if done intensively and 2,000 hours if done slowly (an hour costs roughly $15). Berkeley was a bit frantic at the thought, for the project would have delayed for weeks a set of important other services the University information system was to provide the campus. University Hall was convinced to let campuses try to talk students out of restricting disclosures and handle the few who still chose to do it by manual procedures.

Miscellaneous Problems

There are other difficulties relating to the confidentiality of campus records, either present or in prospect, that might be mentioned. One is the clash between the push to hold campus records confidential versus the increasing reporting requirements and attempts by federal and state agencies to get ever more information in connection with complaints, as discussed in an earlier section of the report. The result is more screening of files and adoption of procedures to summarize the contents of files when direct release of the information would violate confidentiality. Needless to say, civil rights agencies have no confidence in campus officials' ability to summarize files objectively and accurately; the use of summaries to preserve confidentiality will not be acceptable to them. This is a squeeze play in which the campus loses all around - it takes more work to comply with a request and, in the end, the campus looks like it's being obstructionist in its response to a complaint.

A sensitive area is that of ethnic information. Questions of what must and must not be released led Universtiy Hall to commission an in-depth study of the legal and administrative elements bearing on University and campus release of ethnicity data. One interesting finding by the University Affirmative Action office was that the Freedom of Information Act apparently requires the University to release, on request, not only ethnicity data on the workforce but information on the ethnicity of individual members of the workforce, that such information must be treated like salaries and be open to public scrutiny. Thus a possibly sensitive piece of personal information is not confidential. as other legislation might lead one to expect.

These conflicting pressures are built into state laws as well. Employee rights on confidentiality run smack into the California Public Records Act and other sunshine legislation designed to open state records to the public. Two years ago a Berkeley faculty member, under the Act, obtained access to hitherto private files on employees, maintained by the Public Affairs office to provide background information in issuing press releases. He then went on to force release , on request. of summary statements on faculty biographical-bibliography files in the Chancellor's office.

Still another result of Buckley has been that OAR finds it difficult to obtain a second copy of a transcript from another institution when it has been lost, or when Berkeley finds a student didn't list all of the schools he previously attended and supply relevant transcripts, or - in the most serious case - when a student appears to have altered his transcript. Other registrars are often most reluctant to send a copy without written approval from the student. Berkeley had 8 to 10 cases of this sort in the past year.

Berkeley is also concerned about the recent proposals of the Federal Privacy Commission to extend the Federal Privacy Act much deeper into the release of statistical records for research purposes, with new provisions that would apply to all records "supported by Federal funds," for this will affect human subjects research policies. (See also the Justice Department's 1975 regulations: Confidentiality of Identifiable Research and Statistical Information) The Commission is also proposing a similar extension of the Buckley Amendment:

1) to require parental consent to their children's participation (via their files) in survey and data collection studies conducted by agencies like the Educational Testing Service;
2) to include all applicants under Buckley;
3) to ban waivers on recommendations;
4) to broaden the hearing procedures required under Buckley;
5) to require parent and student participation in the design of policies to implement Buckley;

and so on.

To take just one of these proposals, a policy of extending limited access rights to all applicants has already been adopted by the University and the campus, anticipating that proposal. However, there are serious potential difficulties. Berkeley could well be subject to more lawsuits when applicants are rejected. Not only would this increase costs, it would also encourage greater reliance on quantitative criteria for admission - test scores, GPA - to remove any smigeon of seeming subjectivity in admissions decisions. This would conflict with the Court's reasoning in the Bakke case. It would also have a devastating effect on minority group admissions at Berkeley, directly clashing with federal pressures to take affirmative action to enhance minority access.

Final Comments

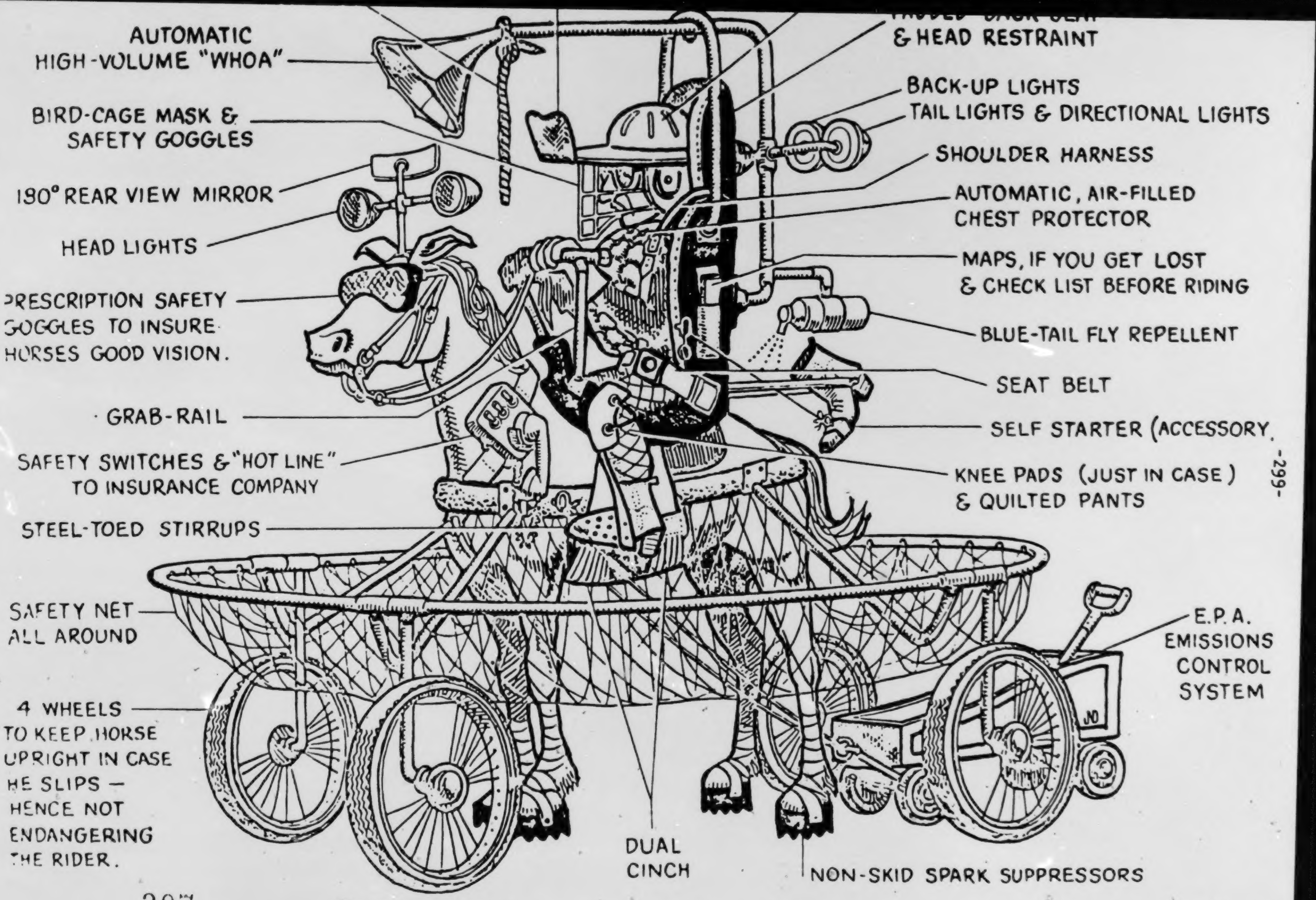
The temper of the institution is not improved, when it comes to these regulations, by the fact that for years it was Berkeley policy to hold student records in greater confidence than was typical at other institutions. OAR has long kept certain sensitive files from general circulation even within that office, has tried to restrict what went into student files, has tried to extend information to others only on a need-to-know basis. Even though this meant some initial adjustments to recent legislation were not as traumatic as elsewhere, it has not saved Berkeley from additional costs and difficulties which appear to be getting worse. No one has ever identified any serious and widespread problems that mandated erection of this towering superstructure of regulations that now looms over the campus. And no one has offered to help with the additional costs. But then, nowhere is it written that regulation must be sensibly in tune with reality.

PART EIGHT

ENVIRONMENTAL, HEALTH, AND SAFETY REGULATIONS

Earlier in this report, under the heading of Research, there was a review of regulations on human subjects, biohazards, and animal subjects. There is some overlap between those regulations and the ones discussed here and, in fact, they are sometimes lumped together for purposes of analysis. They are separated in this report because those regulations are clearly research oriented, while the ones reviewed in this section pertain to the conditions under which all campus activities take place.

Generally speaking, the regulations on health, safety, and environmental protection are well received at Berkeley. People believe they are necessary and valuable. There are fewer complaints that they are unwarranted or arbitrary. This is not to say that they do not pose problems or that there is no concern about the mounting costs that they impose. At a minimum, there are suggestions that the state and federal governments have overdone it, illustrated by the cartoon that floats around offices on campus which is reproduced here.


AUTOMATIC HIGH-VOLUME "WHOA"
BIRD-CAGE MASK & SAFETY GOGGLES
180° REAR VIEW MIRROR
HEAD LIGHTS
PRESCRIPTION SAFETY GOGGLES TO INSURE HORSES GOOD VISION.
GRAB-RAIL
SAFETY SWITCHES & "HOT LINE" TO INSURANCE COMPANY
STEEL-TOED STIRRUPS
SAFETY NET ALL AROUND
4 WHEELS TO KEEP HORSE UPRIGHT IN CASE HE SLIPS — HENCE NOT ENDANGERING THE RIDER.
DUAL CINCH
NON-SKID SPARK SUPPRESSORS
& HEAD RESTRAINT
BACK-UP LIGHTS
TAIL LIGHTS & DIRECTIONAL LIGHTS
SHOULDER HARNESS
AUTOMATIC, AIR-FILLED CHEST PROTECTOR
MAPS, IF YOU GET LOST & CHECK LIST BEFORE RIDING
BLUE-TAIL FLY REPELLENT
SEAT BELT
SELF STARTER (ACCESSORY.
KNEE PADS (JUST IN CASE) & QUILTED PANTS
E.P.A. EMISSIONS CONTROL SYSTEM
JO

COWBOY AFTER OSHA

The regulations discussed here are best considered as an integral part of campus life. They intrude on and help shape virtually any activity on campus, for they play a role in teaching, research, wiring, the operation of labs, workmen's compensation, etc. Thus they are unquestionably the most pervasive of all external regulations. They are the reason for the existence of a large campus office with a sizeable budget.

Because the regulations have been laid out in such detail by external agencies, University and campus policies are essentially brief statements of intent to comply and need no review here.[1] The applicable regulations can be found in such authorities as:

California Administrative Code
California Workmen's Compensation Act
California Occupational Safety and Health Act (Cal-OSHA)
U.S. Occupational Safety and Health Act and Regulations (OSHA)
California Health and Safety Code
National Fire Codes
Uniform Plumbing Code
U.S. Public Health Standards
Uniform Building Code
Environmental Protection Act
U.S. Coast Guard Regulations
California Radiation Control Regulations
HEW Radioactive Drugs and Radioactive Biological Products Regulations
U.S. Nuclear Regulatory Commission Regulations
U.S. Department of Justice Controlled Substances Regulations

The federal contract and grant agencies also do little more than make brief reference to these regulations and the need to comply with them. They avoid devising any special regulations of their own. Only NASA goes beyond this, to require submission of a health plan and a safety plan, the keeping of health and safety records, and the reporting of accidents that occur or hazardous conditions that appear.[2]

What follows is a rather broad overview, because the applicable regulations are vast and often highly technical in nature. The activities they mandate are equally far-ranging, and only a general summary has been attempted.

Radiation Safety

One of the largest components of the Berkeley Environmental Health and Safety Office (EH&S) is charged with responsibility for maintaining radiation safety on the campus. This is the Radiation Safety Division, which used the following indices of its scale of operation in the 1976-77 EH&S budget proposal:

Total Manhours	20,438
FTE	11.78
Total Expenditures	$203,000

Keeping track of all use of radiation is a good sized chore, for there are about 180 authorized users in 600 campus locations with some 2,500 people involved. The Division prepares and issues radiation use authorizations, conducts quarterly inspections of labs, tests and surveys sealed radiation sources and radiation producing machines twice a year, checks and delivers radioisotope shipments, collects and disposes of radioactive waste, issues and collects personal radiation badges, investigates contamination or exposure incidents, advises on standards and procedures to control hazards, and monitors the Berkeley Research Reactor.

To perform each of these functions, the Division must engage in numerous activities that are required by law, either state or federal and often both. The radiation safety program must comply with California Department of Health standards to receive a license from the Department to use radioactive materials. Where the Health Department's writ does not run, the campus must have a license from ERDA and meet federal Nuclear Regulatory Commission requirements.

The federal regulations have been described by EH&S as not "excessively burdensome," with procedures actually having been "simplified during the past few years, reducing the time requirements for and the volume of reports". (A nice change of pace!) In fact, campus reactor safety standards on some matters are a bit stricter than the federal ones. EH&S notes that federal inspectors have been reasonable and "the probability of arbitrary imposition of sanctions seems remote." Inspectors arrive about twice a year and have apparently made helpful suggestions.

This does not mean the reporting requirements are not substantial. The latest Nuclear Regulatory Commission Regulatory Guide (May 1977) lists 106 different reports required for its various licenses, many of which apply to Berkeley. There are reports to the state and regular visits by state inspectors to be dealt with as well.

General radiation policies are outlined in the University Manual on Radiation Safety and the Berkeley Radiation Safety Manual, which are ample documents. The Berkeley Manual is 43 pages of detailed provisions, plus another 30 pages of appendices which include numerous sample reporting forms. These regulations are codified and enforced, in cooperation with EH&S, by the Radiation Safety Committee which, by a slight change in membership, can constitute itself as the Radioactive Drug Use With People Committee and the Human Use of Radiation Committee as well. The Committee reviews proposals for use of radiation, oversees EH&S operations, and is responsible for formulating and revising campus policies on radiation. There is also a Reactor Hazards Committee for that installation. All these committees are formed and operate according to federal and/or state requirements, which have provisions on membership, frequency of meetings, etc.

The Radiation Safety Committee's 10 members met four times this year for two to three hours in each case. Reactor Hazards meets about as often for about as long. It is reported that federal reactor regulations are far more elaborate than needed for the type of reactor the campus possesses.

EH&S knows of no research foregone because of radiation regulations and the general campus view appears to be that the regulations are valuable and enforcement is proper. One benefit of the regulations is that they curb contamination of research results by background radiattion. Of course, the greatest benefit comes in safety for people. A lab director described the regulations as important because physicists (his discipline) are often sloppy when it comes to radiation safety. He cited himself as an example, remarking ruefully "I took a lot of radiation years ago that I wish now I hadn't."

Occupational Health and Safety

Under the federal Occupational Safety and Health Act (OSHA), a state may enact legislation that is equally or more stringent, in which case the state law becomes the applicable one and Washington pays the costs of the state program. California is one of the states that has taken this step, so Cal-OSHA governs the campus, as enforced by the California Division of Industrial Safety. This is a good example of how state regulations, in a legal sense, are really federal ones, still another format for joint federal-state regulatory impact on campus. Under Cal-OSHA and other legislation, the campus is subject to numerous state codes on such things as building, water, vehicles, insurance labor, agriculture, and health and safety generally.

The Environmental Hygiene Division of EH&S is concerned with most of this. The 1976-77 budget proposal of EH&S lists the following indices for this Division:

Total Manhours	22,406
FTE	12.98
Total Budget	$224,052

It is hard to summarize the work of the Division because its responsibilities sprawl across the campus. In brief it is concerned with sanitation, fire protection, safety, industrial hygiene, and treatment of injuries. This gets the people involved into such matters as safety glasses, minor capital projects to improve fire protection, safety programs, inspections and evaluations, campus water systems, and so on. EH&S emphasizes that the campus has little choice but to do whatever is necessary and spend the money needed to remain in compliance with health and safety regulations.

Benefits from the regulations and the programs that result are substantial. The campus safety record is now about 45 injuries reported per thousand employees, or about 600 per year, whereas in 1960 the rate was 60 per thousand. While not all of this improvement is necessarily due to the regulations and the programs that have resulted, EH&S thinks they have played a large part. To put this record in perspective, the number of disabling injuries per million man hours worked is 4 at Berkeley, while the average for all state agencies is 12. One computation by EH&S found that at 1960 injury rates the campus could now be paying as much as $500,000 more a year in workmen's compensation and employee medical expenses, and that campus expenses are at least $200,000 a year less than they would have been under the old injury rates. Thus this is one area of campus life where external regulations have resulted in quite substantial financial savings. If the $500,000 estimate is correct, this would essentially cover all the costs of the entire EH&S operation. An even better picture emerges on fire losses. The loss per million dollars of the campus property due to fire was about $3 in 1974-75, while in the city of Berkeley it was almost $1,000. (And that was a good year for the city.) Other, less abstract, figures might be cited - in the past decade eight people have had their eyesight saved via safety programs.

Another benefit of the regulations is that they force the state to spend more money on safety-related improvements on campus than it might otherwise. For unfortunate but understandable reasons, it often takes either new regulations or a disaster to get the legislature to come up with the money. Better to have the regulations do it. For instance, the state is about to spend $300,000 on campus to install devices that prevent backups from contaminated water systems into fresh water pipes when water pressure is low (as it is now, due to the drought), something that attracted little state attention until it became a health and safety matter.

The costs of even partial compliance with OSHA regulations is substantial. Berkeley's experience here parallels that of other institutions around the country. The Architects and Engineers office reports that there is a ten-year program now underway involving expenditures of $500,000 annually to meet the many requirements. EH&S reports that a $25,000 hunt for OSHA deficiencies on campus has resulted in a three-year plan to spend $1.5 million to correct them.
Looking through the 1978-1981 Berkeley Capital Improvement Program (not all of which will be funded, to be sure) provides numerous examples.

State Funds	Funded Prior to 1977-78	Estimated 1977-78	Proposed 1978-79	Remarks
Project 1)-code deficiencies	$ 46,000	$ 238,000	$841,000	(Mainly fire protection)
Project 2)-fire, seismic, and handicapped deficiencies	5,000	11,000	432,000	
Project 8)-code deficiencies			27,000	(eventually $792,000)
Project 9)-Cal-OSHA deficiencies			17,000	(eventually $500,000)
Project 11)-code deficiencies			33,000	(eventually $973,000)
Project 12)-Cal-OSHA deficiencies			0	(eventually $500,000)
Other Funds				
Project A - code deficiencies, including seismic ones	2,337,000	921,000	1,025,000	(eventually $11,788,000)
Project A - Fire and code deficiencies		85,000		
Project E - code, life safety, seismic deficiencies		50,000	290,000	(eventually $2,500,000)

Or, there are numerous lesser costs. Because of the regulations the campus stockpiled over $4,000 of minor safety equipment for 1977, ranging from goggles to respirators to gloves to skin conditioners and ear plugs, in larger quantities than it would otherwise have purchased. White Mountain Research Station reports it spent $2,000 in additional safety efforts this year, not an atypical figure for many departments.

The College of Chemistry was threatened with even heavier expenses. Cal-OSHA requires that refrigerators be desparked to be suitable for labs, lest a spark set off an explosion. It seems the state saw greater danger in having refrigerator ignition systems under the cabinet and near materials in the refrigerator than in putting them in a special container on top of the refrigerator. The College feels this simply puts the ignition system nearer the many more explosive materials in the labs. It would also cost the College $30,000, so it has set to work designing a new ignition system for its refrigerators that will solve the problem far less expensively. The Anthropology Department has a trailer with fumigation equipment that is too close to the ground to suit Cal-OSHA; it wll cost $3-4,000 to be in compliance. Similar examples could be cited from all over the campus.

These costs result even though there seems to be general agreement that very stringent enforcement of OSHA rules does not occur. EH&S reports that vigorous enforcement would inflict a "serious burden" on the labs - others simply say it would shut most of them down. Many of the standards were designed with industrial labs in mind, where a large quantity of a few materials is used in repetitive processes so that if even a very small percentage of the materials escapes it can pose a large hazard. Research and teaching labs will be in the reverse situation, using relatively small amounts of a great many materials. Were the industrial standards applied to Berkeley, EH&S reports, the "cost of required facilities would be unbearable, the blizzard of paper would be incredible ..." Fortunately, Cal-OSHA uses standards specifically for research and teaching labs that are far more suitable. Even then there are problems. One faculty member has learned that a list of drugs OSHA now bans from having readily available on lab shelves includes acetic acid, apparently because it can be used to make a number of harmful drugs. Acetic acid is vinegar!

Various investigators and lab officials have also noted that enforcement of OSHA regulations is not intensive. One pointed out that the abuses tolerated on campus are more extensive than would be the case in industry, that it is hard not to have some exposure to lab risks on the part of students, and that someday serious trouble for the campus might result. Another reports that in his department labs three people in the past three months were injured by glass in their eyes from explosions (without permanent damage), having failed to wear safety glasses. Apparently a number of people are worried, as one put it, about whether their facilities are in compliance, for the regulations are so extensive it's hard to be certain when one is doing enough.

With regard to accidents, the picture is much the same. EH&S reports that vigorous elimination of all OSHA deficiencies is not in prospect. If it were, the campus accident rate would only decline marginally, because almost half of all accidents are related to back and cardiac problems which would be unaffected.

These comments all illustrate a general problem that government regulations often create. The regulations will be quite elaborate to provide for many conceivable contingencies; they are drawn by lawyers and lawyers are expected to think that way. But that makes it impractical to enforce them to the letter. Something short of complete compliance results, often through understandings with enforcement agencies. Yet little peace of mind results, for the campus is then vulnerable to the charge of not being in strict compliance should misfortune occur or new enforcers who take a harder line appear. This occurred on audits, and many people worry about something similar in relation to OSHA requirements. These naggingly worrisome situations have proliferated in recent years, no doubt helping to induce the more rapid turnover of administrators that now prevails in higher education.

Other Health and Safety Programs

EH&S also has a Pest Control Division which wrestles with the fleas in campus carpets, ants and termites in its buildings, silverfish chomping away at the library collections, cockroaches in labs and student housing, bees and wasps around the campus, the ubiquitous pigeon, and so on. These control activities are mandated by various California, Federal, and University policies and regulations. The Division budget is $84,558 and 5.9 FTE in the 1976-77 EH&S budget proposal.

The Inspection and Testing Services Division examines all campus hazard control and emergency services to ensure they are working properly- fume hoods, fire hoses and hydrants, eyewash fountains, safety showers, and the like. Particularly troublesome is the old campus water system and the possibility of contamination, which State codes frown upon. In recent years, the Division has found some 25% of all safety devices need repairs and adjustments. The 1976-77 budget request was for $31,618 and 2.9 FTE.

Berkeley operates the Bodega Marine Lab and many other programs which require the services of divers, so EH&S has a Diving Control Program. There is a Diving Control Board, a campus Diving Manual, and a Campus Diving Officer. EH&S runs a course in diver training for the purpose of certifying University divers. There are at least 17 departments that make use of these services. Cal-OSHA has regulations pertaining to all diving activities, reflecting federal ones, which have helped shape this program. The budget for 1975-76 was $12,000, with EH&S seeking $18,000 for 1976-77.

Thus EH&S sought authorized expenditures for 1976-77 totalling $562,000. Of this $59,000 was to be charged to other campus agencies or represented other EH&S income. The actual budget was $474,955 with 24.5 FTE. All this is necessary to implement innumerable regulations from a welter of sources, regulations which are proliferating rapidly. On the whole, the regulations are well received as beneficial and workable. However, EH&S does have complaints. Sometimes the regulations are excessively detailed, which threatens the credibility of those on campus who enforce them. Agencies often seem unaware of how regulations really work in practice. Another complaint is that agencies are requiring excess detail in reporting, and think of control too much in terms of paperwork. As the EH&S Officer says, "Reporting doesn't prevent anything." Agencies also require too many overlapping reports.

State agencies have become too ready to issue citations with fines in recent years, rather than warnings. This sets up an adversarial climate. The campus received three citations this year and has fought each (winning on two, so far). EH&S much prefers a cooperative relationship in which campus efforts are appreciated by the agencies.

Environmental Protection

It is too soon for a verdict on environmental protection legislation and regulations vis-a-vis the campus, for this is an area of governmental concern that is still growing. However, some effects are already being felt and the general expectation is that they will increase. What follows is not a systematic treatment but a collection of examples which indicate environmental concerns popping up all over the place.

There is the White Mountain Research Station, for instance. This mountain-top lab is operated by Berkeley on Forest Service land. In the past few years the Forest Service has begun to expand its regulations and tighten enforcement in response to environmental concerns. The old practice of burying trash was ordered stopped, to be replaced by burning. This meant purchase of a new incinerator in October, at a cost of $10,000. The Forest Service has also decided to start charging "use permits" for the land, which will add a new cost of $1,000 yearly. The Service has also decided that all buildings must be painted in "earth tones" to better blend with the surroundings. Some $2,000 was spent on this in the last year. Finally, the Service has decided that the primitive roads the lab has maintained for years invite too much erosion. This will mean paving and more maintenance by Berkeley, and the estimated costs are $10-15,000 annually.

The same things may be expected to occur at Berkeley's Hat Creek Observatory, also under Forest Service jurisdiction. With its twenty-five year lease not due to expire until 1983, the observatory hasn't yet faced use permit charges. However, every year the ranger requests minor improvements, and any proposed changes by the Observatory that might have an environmental impact take much more time and paperwork to be approved and receive a more detailed scrutiny.

As mentioned elsewhere in this report it is possible that DNA projects will come to be placed under environmental protection laws. This would add considerably to the associated problems and costs. The National Environmental Policy Act (1969) requires an Environmental Impact Report (EIR) be filed on all major federal projects that will have significant effect on the environment. Both "major project" and "significant effect" are undefined, but the University's office of the General Counsel reports that the courts generally put the burden of proof that a project does not need an EIR on the institution.

The California Environmental Quality Act (1970) was obviously patterned after the national act of the year before. It has the effect of applying environmental regulations to all state and private activities, supplementing those covering federal projects. CEQA required the promulgation of State guidelines and the drafting of implementing policies by every state agency. This is the origin of the University's policy.

The University has been concerned that it not get caught on environmental matters if it can help it. Thus it has insisted on central control of compliance, with the involvement of the President's office, in which approval of a project depends on adequate campus steps to adjust to the regulations. Thus environmental regulations have had the indirect effect of increasing centralization on these matters within the University.

In addition to the usual time, effort, and paperwork burdens, there are the costs of litigation or the threat of litigation. Perhaps the most significant feature of environmental protection legislation is that it has armed opponents of construction and renovation projects with many new grounds on which to bring suit. Environmentally sensitive students and citizens have indicated little reluctance to do so.

This is a weapon that can be used in numerous ways. A successful suit blocks a project. Any lawsuit adds to the delays and delay is costly (One UC Santa Barbara project was delayed so long the state funding for it lapsed and it had to be cancelled). This is particularly true in an age of spectacular inflation in the construction industry. Thus even the threat of a lawsuit becomes a much more powerful tool.

Delay can also be induced because the overlap and inconsistencies between state and federal regulations give project opponents numerous grounds for complaint and places they may seek relief. There is also the cost of preparing an environmental Impact Report, which can be substantial.

An excellent example of how all this works could be observed on the Berkeley campus this year. For some time the campus has needed a new engineering library, the old one being entirely cramped and outdated. What emerged was a plan to build an Engineering Center which would hold the new library and an auditorium, and also provide facilities and services to make it a focal point for the entire engineering complex, facilitating interchange among faculties and students that are scattered through numerous buildings. Adding this new space would also solve some engineering space problems. All in all a fine idea, and someone donated the money for the building. The problem was - where to put it.

Although various sites were considered, the administration's gaze fastened on the Naval Architecture Building, a modest wooden structure dating back to 1914. Here was a building designed with some grace and care by the University's distinguished supervising architect of that day, but constructed out of inexpensive materials as a relatively temporary structure. All older campuses have buildings of this sort, not designed to last all that long but retained for years because there is never enough space. One increasingly worrisome feature of many Berkeley buildings is their vulnerability to earthquake and their inadequacy in terms of the state seismic safety requirements which have been made considerably stiffer in recent years. This building rates as "very poor" in terms of seismic risk.

Of course, opposition to the demolition of the building appeared, primarily from students. They used the standard means for expression of their views, but then they also moved to have the building listed on the National Register of Historic Places. It turns out to be rather easy to get something added to the Register. It only needs to be a place that is

> "associated with events that have made a significant contribution to the broad patterns of our history; or
>
> ...associated with the lives of persons significant in our past..."

and that embodies "high artistic values" or a distinctive type or period of construction and has yielded "information important in pre-history or history ."

With criteria such as these it is not surprising that the building qualified. Opponents gave every indication that they would also go to court to block demolition. Preparation of a full Environmental Impact Report began to look unavoidable for, as someone in the General Counsel's office points out, failure to do so would also mean being hauled into court, waiting another six months or more, and having a less than 20% chance of getting a favorable decision. Meanwhile time was passing and no Engineering Center was being built.

The Chancellor's Cabinet labored over the problem of what to do, at length. Going ahead with the plans would obviously mean further confrontations with the opponents and a good deal more delay. The ultimate court decision might be unfavorable. Even if it was favorable it would not come quickly, the courts being the way they are. But to change sites meant a new building design. In March it was decided that it would be better to go for a new site, and to order preparation of an EIR on that basis.

What did all this cost? The EIR took a big chunk of time and effort by campus personnel. It also took $81,000 for the assistance of an outside firm. The final report is two inches thick, and the office of Architecture and Engineers invested over 2,000 hours in it. A and E's printing and staff costs came to $40,000. The change in site meant additional complications in construction due to the nature of the new site. These have upped the projected cost of the project by $840,000. The delay in the project will mean higher costs due to inflation; these are now estimated to be $335,000.

Thus the direct additional costs of the Engineering Center, excluding those absorbed by A&E and other offices, will come to $1,250,000. This makes the building more expensive than the donor had planned, so additional money must be raised. There are now opponents of the new site who will have to be dealt with. And now that the Naval Architecture Building is on the National Register, Berkeley may well have to spend money to maintain it in a style befitting an historic place!

1. Arthur B. Jebens and Earl Z. Irvin, Environmental Health and Safety Research Management Improvement Project, Berkeley, December 1974.

2. Ibid.

PART NINE

MISCELLANEOUS ASPECTS OF FEDERAL REGULATION

Describing the federal presence by gathering information via any set of categories inevitably leaves loose ends. Regulations often cut across areas of campus life, but some pertain only to small subsections of the campus or deal with relatively esoteric matters. It was felt necessary to add this catch-all section of the report, for reference to at least some of the effects of federal, and state, requirements not previously covered.

Construction

The review of contracts and grants, including procurements, described the many provisions that must be inserted in contracts to meet federal requirements. The University and campus also let contracts for construction, and the same sorts of requirements apply. Most need but brief mention here - the clauses pertaining to the Davis-Bacon Act, payment of prevailing wages, avoidance of kickbacks and contingent fees, the Buy American Act, non-use of convict labor, OSHA, Veterans, the Fair Labor Standards Act, the Contract Work Hours and Safety Standards Act, the use of small business and minority-owned firms, etc. The affirmative action clauses are extensive, reflecting the government's special concern for integration in the construction industry. Contractors must submit annotated payrolls by race and sex, project the probable workforce on a project in percentages of various minority group employees, undertake a commitment to affirmative action through job publicity or work with the unions and sometimes via a promise to try to meet specified goals and timetables. There are required contractor reports stemming from all of this as well and a great deal of paperwork results. As with the other types of contracts, the University and campus have undertaken significant enforcement responsibilities.

The University lawyer who specializes in construction matters spends a fair portion of his time reviewing the "terms and conditions" of the contracts to ensure the required clauses are present and the language is appropriate. This requires his being aware of the variations in agency requirements, variations he would prefer to do without. To the extent the contractors' costs rise due to the requirements they get passed on to the University and the campus in higher prices, which he estimates as about 5% of the final cost of projects today. (Other estimates are as high as 15%.) His job is not made any easier by the fact that regulations are often written badly, which means he must sort through them with care and spend time trying to explain them to others.

Other costs are associated with the Public Works Acts (1976, 1977) which distribute federal money through the states to create jobs. There are wicked delays as before the money cascades down from Congress through the administration, the state government, and the University to the campus. Commonly, the campus will prepare numerous applications for the funds, with details on many projects, and then receive funds for only a small number. Accompanying the money are federal and state regulations, often quite bothersome. For instance Title II of the 1977 Act conveys funds for deferred maintenance. The campus waited all year to learn what funds would be available, while Washington and Sacramento sought detailed information on the probable workforce for each project proposed. Since the point of the program is to give the economy a shot in the arm, when the money for the campus was finally announced in June the government insisted that construction start within 90 days and be finished by December. Regulations on this work permitted the Architects and Engineers office to retain only 10% of a project's funds for its own costs (not the usual 20%).

The results are that

1) Architects and Engineers has had to drop everything else to get the design specifications ready and the contracts let. None of this rush work can be assigned to outsiders because A and E's alloted share doesn't provide enough to pay them. Very little preplanning could be done because A and E is paid out of actual contracts. With the federal money uncertain, no one could plan the projects in detail because there was no guaranteed way to pay for this work.
2) the projects are just about ready to start - right on time for classes! The place will look like a trade school in the construction business, with disruptions occurring everywhere to get the projects completed by December.

3) A and E had anticipated $600,000 in Regents money for deferred maintenance work, so it drew up $600,000 in priority projects and simply listed the remaining projects in alphabetical order. The additional money from Washington amounted to $1 million - but the government insisted the money be spent on the projects as listed (alphabetically). Almost certainly this was because that list had been used to compute how many additional workers of what types would be hired for the $1 million. If the list was changed, the computations would be off. So the million dollars of deferred maintenance money is being spent not in keeping with campus priorities but on roughly the first half of the alphabetical list.

4) the December deadline and the 90 day requirement are ferocious in their effects, given all the required steps and paperwork that other regulations impose. For instance, requirements that contracts be let by competitive bidding mean that at least 30 days (of the 90 allowed) is consumed just for this. Berkeley is hustling on the Regents projects plus the 91 that the federal money will fund. The government won't ease this burden by letting the campus use this new money to pay for a federal project just completed (releasing those funds for later spending) or to pay for a project that was proposed for state funding and rejected. This is somewhat understandable in view of the government's desire to have its money create new jobs, but the strain that results on the campus is heavy.

Regulations sometimes get in the way of efforts to achieve their objective. This is a problem in the area of small business subcontracting. In spite of the government's intent, A and E knows of small contractors who refuse to bid on federally funded projects because they don't want the hassles and paperwork that result. Another problem arises if the campus has specified the equipment to be used on a federal project and then desires to change it; the government must approve, with the inevitable paperwork. This can mean doing the job less efficiently because it is inefficient to try to acquire more efficient equipment!

Finally, there are the effects of the little-known federal relocation regulations, which deserve mention because they display a trend, even though Berkeley is not directly affected. When an agency acquires property or in other ways displaces people, it must provide those people with equivalent housing that is "decent, safe, and sanitary" and, if possible, is in the same locale. This housing must be available before the people have to move, and the agency must pay the moving expenses. If these conditions can't be met then, as a last resort, the agency must build new housing.

California has enacted parallel legislation clearly modeled on the federal statute. Implementing guidelines have been issued by the Department of Housing and Community Development and each state agency, including the University, has had to establish appropriate policies. These regulations virtually preclude large land acquisitions for urban campus development - too much effort, time, planning, and additional cost is involved, and there are lovely possibilities for lawsuits. Berkeley is relatively unaffected now, but had these regulations existed in the 1950's and 1960's the campus would never have reached its current size.

Broadcasting

To use the air waves, Berkeley must secure a variety of FCC licenses. The non-commercial student radio station must have its license renewed every three years, and the renewal process is just starting. The application forms are not too elaborate, covering engineering data and information on program services. In the past, FCC regulations pertaining to affirmative action were applicable only to installations with at least five full time employees. But the FCC recently lowered the limit to three, so the station will be affected if the agency counts its two full time and assorted part time staff as three. To be eligible for renewal the station recently needed a new antenna to meet FCC rules, at a cost of $24,000. Architects and Engineers reports this was a crisis project, and involved dipping into the Chancellor's discretionary funds.

The station also needs "remote pickup" licenses to handle broadcasts of away games and other sporting events. Recently the FCC switched regulations on the type of equipment acceptable for these broadcasts, forcing Berkeley to find an additional $2,000 by August 1. On paper, the campus could have appealed, but that takes up to 18 months and the FCC doesn't allow existing equipment to be used pending the decision. And the appeal costs would have been about the price of the new equipment. The campus must also apply for permission to use frequencies for these remote pickups and the FCC has been changing the allowable frequencies recently.

Next come Instructional TV Fixed Service (ITFS) licenses, the applications for which are considerably more complex. You know things are complex when even the delivery instructions come out like this:

> PREPARE THREE COPIES of this form and all exhibits, and ONE ADDITIONAL COPY OF SECTIONS I and V and related exhibits. Prepare two additional copies of Section VI. Sign one copy of Section I. Prepare two additional copies of Section VII if appropriate.

These licenses are for channels mainly used for extension courses. The application forms are very extensive, requesting information on the Universtiy, financial arrangements, program plans, and a great deal of engineering data (For instance, the FCC wished to know if any aliens were involved). Fortunately the licenses are for five years, and renewal will not be needed again until 1980.

Next, there are "station to transmitter (microwave) link licenses", for the links between the TV station, on campus, and a transmitter, located on a high point in the surrounding area. These licenses do not need to be renewed on a regular basis. When Berkeley applied in 1972, the FCC pushed to have Berkeley authorize multiple use of these frequencies (by having industry participation, for example). Berkeley resisted, using a good deal of time to prepare its response; it also hired a consultant, for $5,000, to help.

While that is not a recurring cost, the efforts of the FCC to crimp educational broadcasting in favor of other needs is a regular problem. The Berkeley Coordinator for Educational TV, in league with other institutions' representatives, works constantly to try to offset the pressures on the FCC from commercial broadcasters to shrink the range of frequencies reserved for educational TV. In recent years, the number has been cut from 32 to 28.

Broadcasting involves equipment that may emit x-rays at hazardous levels, which brings the scrutiny of Environmental Health and Safety. Some TV projectors have to be checked by EH&S every time they are turned on, and occasionally inspections lead to expenses for additional shielding. On certain jobs the technicians must wear hard hats, as EH&S mandates. These safety precautions derive ultimately from federal or state requirements.

The Educational Television Office has also been affected by the audit controversy. The Office earns about $100,000 per year in charges for non-instructional media services, much of it in recharges on other campus budgets. Audit concerns have led the campus Recharge Committee to insist on more complex documentation of the Office's recharge rates, including a calculation of depreciation. This reflects the government's insistence that it not be charged to help replace or enlarge existing central services equipment.

The Office is also affected by the new Copyright Law. The Coordinator finds many provisions difficult to interpret, such as what constitutes "fair use" of broadcasting material for educational purposes. With no precise standards to go by, he works on a case-by-case basis. This takes some judgment for there are many "pirated" materials around. In fact he knows of some valuable collections of broadcast materials on campus that aren't widely used because no one feels comfortable advertising their presence when there is uncertainty as to whether the Law applies.

In his view the Copyright Law may be unenforceable. Some faculty now copy things off their TV sets on home video-recorder equipment and then simply bring the material to him for circulation or to put in library holdings. Faculty also request that rental films be duplicated by the Office to save future payments, which he does not do without prior approval from the distributor. On the other side are the producers, who regularly write tough letters threatening legal action for unauthorized reproduction. As this whole area of the law is in flux, doubtless there is a dandy lawsuit somewhere in Berkeley's future.

The last of the regulations that might be mentioned pertain to the operation of campus stations. Daily operation and maintenance logs must be filled in every half hour, at station identification, and for every program change. This is the task of the licensed operator, who must initial each entry. Samples of logs must be submitted with license applications, and all logs must be retained for at least two years and open to FCC inspection. A "first class" licensed operator must be on call 24 hours a day, to handle broadcasting during a state or national emergency - when the government would want to take over the airwaves.

Campus Police

A number of Police activities were reviewed earlier, in connection with affirmative action and the Buckley Amendment. However, other elements of Campus Police work are shaped by federal regulation and can be mentioned here.

The Fair Labor Standards Act introduced the requirement to pay time and a half for overtime and defined the workday and workweek as eight and forty hours respectively. It was customary before the act to treat police work more as a professional service; the workday and workweek consisted of the time necessary to finish an assignment. Under the Act the campus has paid more overtime to the Police. (This applies to every staff department. In 1975-76 the campus paid $157,000 in overtime, but how much is due to FLSA is impossible to say.) The League of Cities lawsuit that overturned FLSA's application to state and local governments, including the campus, (National League of Cities vs Usery), grew out of 1975 amendments that the Police Chief found very unacceptable. He spent many hours coordinating efforts to do something about the legislation. While the Supreme Court decision blocked application of the new amendments, the University and campus were not about to rewrite payroll policies, so the effects of the original FLSA remain.

Campus Police are affected, like every police department, by federal court decisions in the last two decades enlarging the rights of the suspect or the accused. In general, the decisions mean more paperwork and more staff, more court appearances by officers, and a closer association with the University's office of the General Counsel.

Care must be taken to document each step in an investigation.

The Law Enforcement Assistance Administration, created in 1964 and amended in 1973, has had a mixed effect on the Police. Some LEAA funds and funded programs have been of benefit to the department: modest grants, some funds to allow officers to return to school, a little equipment. LEAA funded creation of a new alarm system for the county in which emergency calls for aid are instantly traceable (of value if someone is cut off), and the Berkeley department will be plugged into it. However, a huge amount of paperwork comes with LEAA assistance, for it directs a steady stream of requests for information about the department's programs, personnel, workloads, and so on. LEAA also prompted creation of the California Council on Criminal Justice, the Office of Criminal Justice Planning and the Alameda County Regional Criminal Justice Planning Board. These are good bureaucratic names for some nicely bureaucratic agencies which are always requesting all sorts of information from the Police.

Legal Services

Several references have been made in this report to the rising need for legal services the campus has experienced. The dimensions of this need and costs involved are difficult to document. Obviously, any large corporate entity will need a legal staff just for normal operations; of interest here are additional legal services that stem from burgeoning federal regulation.

Lawyers are of help in the following regulation-related areas:

1) monitoring and interpretation of federal and state court decisions that bear on higher education;
2) interpretation of applicable legislation and regulations; design of policies to ensure compliance; screening of new and proposed regulations to prepare comments and suggested changes;
3) screening of contract and grant provisions, those pertaining to the University and the campus as contractors and those inserted in subcontracts;
4) defense of the University and the campus in lawsuits;
5) negotiation with federal and state agencies in connection with complaints.

The University's Office of the General Counsel now consists of 19 lawyers, and it is estimated that over half regularly deal with federal regulation matters which now account for about 20-25% of the total office workload. This is work performed on behalf of the entire institution including Berkeley. This campus constitutes more than 1/9 of the University, but it also handles more of its own legal work than other campuses. Thus if we use a 1/9 share of General Counsel expenditures, Berkeley needed roughly $100,000 in legal work in that office in 1976-77. This would mean $20-25,000 was related to federal regulations.

Berkeley decided several years ago that it would be exceedingly helpful to have additional legal assistance right in the Chancellor's Office. The office of the Assistant to the Vice Chancellor-Administration, Legal Affairs was created for this purpose, and in 1976-77 its total budget was $47,200. Out of this the Legal Affairs Assistant estimates that one third is related to federal regulation, which comes to $15,600.

Many legal services pertain to areas of campus-government relations only briefly mentioned, if at all, in this report. For instance, one lawyer on the staff of the General Counsel's office is a specialist on patents, an area of considerable importance to the campus and where there are regular clashes of interest. Another is a specialist on taxes. This is not as significant for Berkeley as for major private universities but it cannot be ignored. Berkeley receives many millions in gifts each year, and tax laws condition the climate for giving. Or, there is the new IRS interest in taxing the "unrelated income" of institutions otherwise tax-exempt. Among the IRS targets is the TV revenue generated by PAC-8 (now PAC-10) sports, which could seriously cut into campus athletic revenues. IRS regulates the amount of employees' salaries that can be tax sheltered, which now involves such complex calculations that the services of Personnel office specialists on campus and lawyers at University Hall are required.

ROTC

This is such a well established part of the campus, it is easy to overlook. However, the University of California under its charter as a land grant institution must offer ROTC programs. Were it not for this federal requirement, ROTC would have been abandoned by the campus some time ago. And there are campus costs, and some problems with the government, associated with ROTC.

As to the costs, Berkeley must supply "appropriate facilities", it pays for clerical staff in the three service programs, and it pays a small monthly stipend to each officer. Excluding the maintenance costs on the facilities the actual expenditures on ROTC for 1976-77 were $90,500 (based on estimates projected from expenditures through May).

The ROTC programs operate under contracts negotiated with the services, and some return clashes over these contracts have occurred. The standard service contracts require that the chief military officer of each program be given the title of "professor". This is not a title the faculty at Berkeley take lightly. The most Berkeley has agreed to is "Adjunct Professor". In the same way, standard contract language has it that ROTC officers must be given seats on all faculty committees that could affect the departments of military science. Senate Committee membership at Berkeley is open only to members of the Academic Senate, and membership is a cherished possession that would never be handed to officers on temporary assignment. Berkeley has so far successfully resisted this requirement, but the negotiations have been extensive.

The operation of the Military Officers Education Programs now is under the general supervision of an Assistant Vice Chancellor, who spends as much as half of his time at it. Berkeley is interested in making the position of chairman a half-time one for a permanent faculty member. This would be in keeping with the campus insistence that it set up its own ROTC curriculums. Berkeley treats the service requirements that there be a minimum number of contact hours per week between officers and students as not necessarily referring to classroom hours. Berkeley has the contact hour requirements met by time on the drill field.

Studying the Impact of Federal Regulations

When the consultant for this project contacted the many campus officials and faculty who provided much information used, he discovered someone had been there before. Several people suggested that among the burdens of federal regulation are the inevitable studies of the burden of federal regulation! This study involved roughly 300 hours of faculty and administrators' time (in addition to the consultant's). Last summer another, much smaller, study was undertaken, on request of the Mathews Inter-Agency Task Force On Higher Education Burden Reduction, and several offices gathered materials or submitted short statements. During the year Berkeley received at least three invitations to submit information to other studies being conducted around the country. There were also several invitations for administrators to attend conferences on this subject. A number of departments and individual faculty are known to have been similarly targetted and presumably others were as well.

PART TEN

A SUMMARY AND CONCLUDING THOUGHTS

A survey of the impact of government on Berkeley turns out to be a tour of the entire institution. Even odd corners and intimate features of the place have to be probed, for the government seems to have crept into every cranny. What does this tell us? In recent years a number of economists who have studied the major defense contractors have concluded that the government's presence is so overpowering, their status as private companies is a fiction. We may soon be forced to the same conclusion about the automony of major universities.

This is the impression that imposes itself from a study of Berkeley. It is only reinforced when the information in the preceding sections is pulled together and amplified by way of a summary. It seemed best to build concluding remarks around a catalog of the effects the government has on Berkeley, effects mentioned or implicit in the discussion throughout. Here is that catalog.

I Benefits

If there were no benefits in federal involvement, leading figures in higher education could hardly justify their clamor for more federal money. Washington has built buildings, raised up research empires, financed students, purchased equipment, donated property, and conferred tax advantages. These benefits are only briefly alluded to in this report, with its narrower focus on regulation and research. This may seem unfortunate at first glance, as a distortion of reality; part of the context, the benificent flow of that money, is largely missing. On the other hand, the report need not have addressed this because everyone knows about it. Old news is no news and in education these days it's "What have you done to me lately?" The benefits of government financial support are a given, and we have turned to other things.

Government officials are apt to think this a bit short sighted, as well they might, but something similar often lurks in their own attitudes. They have a sometime tendency to see the benefits as pretty much like those dispensed to industry by government contracts or favorable legislation.

Education is just another industry, its leaders rationalizing self interests by reference to public welfare, like all the rest. There is something to this in the sense that educators like to educate and researchers to investigate and government money enlarges their opportunities to do these personally rewarding things. That said, however, the primary consequences of the government's largesse is expanded educational opportunities for its citizens and the benefits that flow to everyone from research and higher levels of education. Universities cannot be said to have gorged themselves on outlandish salaries, striking new buildings, plush offices, and fattening staffs. "Golden Fleece" awards to the contrary, most of the research at a place like Berkeley is far from inconsequential. The benefits of government spending are not benefits to higher education, they are benefits to society through the expanded capacities of its educational institution.

What of the rewarding effects of regulations, which are certainly not given? It is important to make note of them here. In doing so, certain difficulties that arise need to be discussed. One is that familiar problem, the non-event. If discrimination does not occur or if the accident rate drops or human subjects are not mistreated, is this due to the regulations? This is just the other side of the coin in trying to accurately assess the costs of regulations. Another difficulty arises because many laws and regulations originate in or curb abuses outside Berkeley, or outside a particular college or lab. Given the decentralized nature of Berkeley, asking people to evaluate the benefits elicits a very mixed response. Absent experience with abuses at which the regulations are aimed, people see few good results, or the results appear hypothetical. Others can refer to the specific improvements with which they are acquainted, but nobody is in a position to provide a detailed overview, again because of the decentralized nature of the campus.

Another, and distressing, problem relates to measurement limitations. Not all improvements come in readily measured forms to be precisely identified and reported. To the unsympathetic, those that can be so reported represent the only progress that has been made or the only changes that have occurred. This feeds their appetite for still more regulations, often at needless expense to the campus.

Turning to the benefits themselves, a good place to begin is with the pursuit of equal opportunity for the disadvantaged. While there is honest disagreement as to the existence, and scale, of racial and sexual discrimination at Berkeley, there is no doubt that pressures for affirmative action have increased opportunities for women and minorities. They have helped to foster a climate in which action on behalf of women and minorities is compelling and legitimate. Required reports and the setting of goals have introduced mechanisms that better monitor progress and provide data for administrative intervention in support of racial and sexual equality. Regulations on the handicapped will doubtless have a similar effect, and anticipation of them has already brought improvements.

Another benefit of affirmative action pressures might be more readily apparent to a legislator, perhaps, than to many on campus. In view of the money available, there are always too many good programs. It's not a matter of getting the people making up budgets to view affirmative action as important. They think it is, but lots of other important things have claims on resources too. New laws and regulations can be of benefit in that they force a decision to reallocate resources and "legitimize" it in some way ("Why spend this money? Because the law says we must."). In this sense, affirmative action pressures help free resources at Berkeley for encouraging greater access for the disadvantaged, as students, faculty, and administrators. Laws and regulations sometimes put teeth in one's own good intentions.

Restrictions on research - in human subjects, DNA, and animal subjects - have brought several kinds of improvements. It is good that attention be paid to public concerns about research in these areas. Fear that human or animal subjects may be mistreated, or that DNA research might breed harmful organisms, are not unfounded and if provision for systematic review is not made by the institution, there will almost certainly be more elaborate and more heavy handed controls from outside. Chances are slight that such controls would be as tolerable or workable.

While no dangerous research on DNA has been detected and prevented, the Human Subjects Committee has altered some unwise or potentially harmful elements in research proposals. The care of animals has improved considerably due to better facilities, more oversight, and a broader awareness concerning animal welfare.

It is possible that the quality of research involving human subjects has improved with the need for investigators to confront an additional review of their research designs. Research with animals clearly benefits from greater control over diseases, pests, and other factors that may harm or kill animals or distort the results of experiments. The need to comply with animal care regulations has provided the impetus to improve facilities and has strengthened incentives for the state to come up with the money.

The existence of research oversight committees, mandated by regulations, has broadened knowledge of how particular projects or practices may be harmful. The pool of experience in these matters has been enlarged. In human subjects, a useful debate on the meaning of "social" risk and its possible effects on research was generated.

Students now may see materials in their files and may do something to have erroneous information altered or deleted. While such changes in files have very rarely occurred, this does occasionally happen. Perhaps more important is that these opportunities help relieve student anxieties, however ill-founded, about being manipulated by the hidden records of a seemingly large and impersonal institution.

It is difficult to say how much safer the campus is due to health and safety regulations, but there seems little doubt they have contributed to preventing accidents, fires, and exposure to harmful radiation. The applicable regulations have helped bring the state to fund improvements that might otherwise have remained just good ideas.

A significant secondary benefit of laws and regulations has been improvement in campus and University management and information systems. Berkeley is instituting a computerized data system on academic personnel that will not only simplify preparation of the annual affirmative action report, but be much more responsive to administrative needs on other matters. Financial records and accounting systems and practices have been improved and, no doubt, will be further upgraded in response to complaints from federal auditors, improvements that should have a number of side benefits. The University and campus are moving to new inventory practices to meet requirements for screening on equipment purchases which should provide better services in other areas as well.

On grievances, the regulations either have fostered new procedures or have made existing ones available for a broader range of complaints. They have opened new avenues for those dissatisfied to seek help off campus. While there has been no increase in instances where the campus is found at fault, there is at least a smaller likelihood that a person mistreated will get no attention and relief.

II Costs

No attempt was made to develop an elaborate method for computing the costs of federal regulations at Berkeley. To devise a method and apply it thoroughly would have taken all the time available for this study, for there are a number of almost insurmountable problems associated with such an effort. Even the concept of "cost" is vague and variable. It can be taken as a synonym for "expenditure." It can be narrowed to encompass unreimbursed expenditure only. It can be broadened to include income not obtained that otherwise would be. Many activities in a university serve multiple purposes simultaneously, some of which are related to federal and state regulations, and it is difficult to sort out just what proportion of each is involved and to pro rate the expenditures accordingly.

What follows, then, is simply a set of actual or possible cost categories, the purpose of which is to illustrate some of the costs involved and those that might be included if a more elaborate analysis was attempted.

Disadvantaged Groups

A number of expenditures were cited in the text of the report as official affirmative action expenditures, including student assistance directed largely at minorities, totaling $8,961,967. The report done this year that offered excerpts from last year's Title IX self evaluation responses cost $14,000. Specific expenditures for the child care program in 1976-77 were $679,743. The office of Architects and Engineers estimates that one-third of its administrative expenses derive from work on projects to provide access to the handicapped, which amounted to $41,353 in the past year. In the report, $497,900 in examples of recent expenditures on remodeling for the handicapped were listed. $290,000 in recent remodeling costs for improving women's athletic facilities pursuant to Title IX were included. A modest increase in expenditures for women's athletics for this year of about $45,000 will be followed by a jump of over $200,000 for the coming year, not counting a special allotment of $90,000. Planned renovations of facilities to respond to Title IX will amount to almost $2 million.

The total for these expenditures comes to over $10.5 million. Not included is any estimate of administrative expenses borne by most campus departments and offices to comply with the regulations. Also not included are administrative expenses of enforcing anti-discrimination and affirmative action requirements on contractors - in construction, purchasing. The estimate contains no figure on central administrative costs apart from those budgeted as affirmative action. There was no way to calculate the total proportion of campus construction that derives from handicapped regulations; the figure given is only for examples of such work.

Financial Aid

The Financial Aid and Loan Records and Collection offices estimate that portion of their costs as related to federal requirements during the past year at $581,739. The Central Student Loan office at University Hall puts its administrative expenses associated with Berkeley loans at $275,000. Offsetting some of these costs are administrative overhead payments made by the government at the rate of 4% in some federal student aid programs, which came to $210,336 in 1976-77. Of this, $16,067 was allocated to the Financial Aid office and $3,526 to Accounting. $52,584 was placed in a reserve account for the use of the campus in 1977-78, and the remainder was held by the University administration. The Office of Admissions and Records puts its costs in relation to student financial aid at $40,000. This results in total expenditures of $896,739, minus administrative overhead payments of $210,336, leaving unreimbursed expenses of $686,403.

Foreign students and Visitors

The estimated costs of the Foreign Student Advisor's office that stem from federal regulations were $30,000 this past year. Not included is the minor administrative expense in OAR and Extension concerning issuance of I-20 forms, nor any of the departmental work associated with preparing the necessary documents Berkeley must supply to hire an alien as a faculty member or in a research position.

Income Lost

Extension estimates its loss of fees from veterans and their dependents at $30,000, due to avoiding veterans programs because the regulations are unacceptable. Another income loss that might be calculated pertains to the fact that the campus and the University must often advance funds on federally funded programs and then wait for reimbursement. It has been argued, here and elsewhere, that a significant portion of those funds would otherwise be invested on a short term basis and earn interest, and that loss of this interest is a significant cost. In 1973-74, according to one study, when the average rate of interest on short-term investment of the University's working capital was just over 9%, the loss to the University was $630,000.[1] Berkeley's share (based on its proportion of University awards) would have been approximately 20%, or $126,000. Presumably the figure for 1976-77 would be similar, after allowing for changes in the totals of expenditures and the interest rate. The government does not consider this an allowable cost and it cannot be included in indirect cost computations.

Human and Animal Subjects, DNA

The costs of the Committee for the Protection of Human Subjects this year were $97,856,including half of the Chairman's salary. However, this does not include a figure for the time of the other Committee members, or of the investigators who must prepare protocols and comply with the regulations in their projects. The Division of Animal Resources budget was $186,000. Not included is an estimate of the value of the time spent by members of the Committee for the Protection of Animal Subjects. Substantial costs borne by departments and investigators in the care of animals, that derive from animal subjects regulations were not surveyed. Reference was made in the report to capital expenditures over the past decade to bring Berkeley's facilities in line with federal and state requirements, including projects currently being undertaken that will total over $300,000 when completed.

No estimates of DNA regulation costs were supplied. Thus there is no computation of the value of the time and effort of the members of the Biohazards Committee for 1976-77. The ultimate costs of compliance with all biohazard regulations will be ample. The campus is in the initial stages of projects to refurbish laboratories for DNA research that it was estimated will amount to $1.1 million.

Contracts and Grants

Using a figure of 1/9th as Berkeley's share of the 1976-77 budget of the University's office for Contracts and Grants produces costs on behalf of the campus of $11,500. The Campus Research Office expended $125,509 this past year after subtracting money supplied to the office derived from federal indirect cost payments. Purchasing estimated that of its budget, $143,116, stemmed from federal regulations. A similar estimate for Inventory produced a figure of $50,000. Only one example was cited of costs borne by the campus ($55,200) due to an award renewal that was not made retroactive to the termination date of the prior year's award. This results in a total of $385,325.

However, this is a relatively minor part of the total cost since it includes no figures for Accounting or for the departments and principal investigators which bear the largest share of the administrative burdens. In its indirect cost calculations the University has been using a figure of 15.5% of adjusted total direct costs for research as representing departmental administrative expense. For the last year on which complete figures on research are available, 1975-76, the federal expenditures totalled $37.7 million, of which 15.5% would be $5.8 million. This suggests the extent to which research administrative costs are not reflected in the above figures.

As indicated in the report, the government pays for indirect costs at a negotiated rate. One national study of universities found that, from their viewpoint, the government fails to pay for an average of 10% of true indirect costs. A study of this sort has not been performed for Berkeley or the University, but in view of the dismay at the current indirect cost rate, it seems clear the government does not reimburse all of what are believed here to be legitimate indirect costs.

One largely prospective cost is that involved in implementing A-110. The University's estimate of the total additional expenses is $1.6 million. Berkeley's share, using a 1/9th figure would be $177,000.

Environment, Health and Safety

Total budget for the office of Environmental Health and Safety in 1976-77 was $475,000. There is no way to determine related capital expenditures, which are often for multipurpose projects. The campus is committed to or has plans for millions of dollars in remodeling to remove seismic, fire, and other safety deficiencies in its buildings and grounds. Other expenses include more modest ones that departments experience - for additional safety equipment, desparking refrigerators, etc.

Against this,one might attempt to estimate the money saved by the campus due to better fire prevention and a lower accident rate. On accidents alone the annual savings may be $200,000 - 500,000 per year, when present rates are compared with those of a decade or more ago.

The ability of opponents of demolition of the Naval Architecture Building to force a change in site for the Engineering Center raised ultimate project costs by $1,295,000 by present estimates. This is largely an expense for future years, rather than 1976-77. On the other hand, no figure was calculated for the great deal of time and effort expended by the leading officials of the campus, plus various faculty members, on the decision to abandon the first site and on selection of a new one.

Legal Services

The General Counsel's office estimated that the proportion of its budget going for matters relating to federal regulations was as high as 25% and that Berkeley's share was 1/9th, or $25,000. This is almost certainly too low since over half of the staff of that office regularly deal with significant federal regulatory matters. The General Counsel's office anticipates total additional expenses for the Bakke decision to be as high as $150,000, only a portion of which were paid this year. The campus office of the Legal Assistant assesses the work on federal regulations as occupying a third of its budget, or $15,600.

Miscellaneous

The campus expenditures on ROTC was $90,500 in 1976-77, not including maintenance on the facilities supplied to the three service programs. Broadcasting involved costs of $26,000 this year due to regulations.

Other "Costs" Not Included

There are several additional items sometimes included as costs of federal regulations but not surveyed here. The ACE study "The Costs of Implementing Federally Mandated Social Programs at Colleges and Universities," by Carol Van Alstyne and Sharon Coldren, includes as costs additional expenses due to Social Security tax increases, other retirement benefits, and unemployment compensation payments. One might also attempt to calculate the additional overtime paid by Berkeley due to the effects of the Fair Labor Standards Act.

It was pointed out in the report that Berkeley pays more for some products due to the Buy American Act, more for some shipments because of requirements to use American carriers, and more for labor on a number of projects because of the need to pay the "prevailing" wage rates. No attempt was made to refine these factors into precise figures. It is reported that the necessity to use competitive bidding leads to additional expense in some cases, again not calculated.

There is a range of estimates as to the additional price paid on all contracts, as firms pass along their federally mandated costs. A figure as low as 5% would put the additional expense in the millions for the campus.

A few comments are in order about various contexts one may use to assess these sorts of costs. Depending on the definitions used and the methods of computation selected, it is virtually certain that the costs of federal regulations amount to at least 10% of the current operating expenditures of the campus, which would have been on the order of $22.6 million in 1975-76. It is quite likely that the actual costs are higher. What this means depends on the standard of comparison chosen.

If one looks at total Berkeley expenditures this is a great deal of money but not overwhelming. And it is a good deal less than the money the campus receives from Washington, which came to $60 million in 1975-76. If one compares this with the amount of relatively flexible money the campus has available to meet new demands, it looks enormous. This is why even a seemingly modest additional unreimbursed expense due to federal regulations can produce a sharp reaction. It is also why federal regulations have such a heavy impact on campus priorities; they eat up much of any flexible money that becomes available.

A third basis for comparison is the trend in federal support. Federal research funding has been leveling off or declining in real dollar terms. This is very much true of federal support for graduate students. If HEW has its way on indirect cost rates, there will be a further decline in the flow of research funds to the campus. When we compare this with the rising costs of regulations, it means the campus is taking a cold bath in financial realities.

III Increased Reporting

Reports are ubiquitous. They are possibly more plentiful than the readers thereof. By now someone on campus may have put into practice the often voiced threat to submit exactly the same report several years running, with the dates changed, to demonstrate the futility of it all. While some reports are inconsequential, others are anything but, and the accumulated burden is considerable. Little else need be said at this point, other than to provide the following summary.

REPETITIVELY PRODUCED REPORTS TO FEDERAL AGENCIES

Federal Agency	Title of Report	Frequency	Prepared by UCSA/Campus Department
Civil Service Retirement System	report of deduction payments	monthly	Accounting
NASA	NASA financial and cash requirements reports	quarterly	"
IRS	US Treasury Form 941	quarterly	"
USPHS	summary report of expenditures of USPHS construction grant funds (Form 2844-4)	"	"
Aid Branch-DHEW	Annual Report of Repayments on National Direct Student Loans	annual	"
IRS	Form W-2 Withholding Tax Statements	annual	"
IRS	Form W-2P Withholding Tax Statements	annual	"
IRS	US Treasury Form W-3 reconciliation of Federal Income Tax withheld from wages & annuities as reported on Form 941	annual	"
IRS	US Treasury Form 1042-S Annual Information Statement of income tax paid covering payments & taxes withheld from non-resident alien employees	annual	"
IRS	US Treasury Form 1096	annual	"
IRS	US Treasury Form 1099	annual	"
IRS	current year tax exempt status certificates for non-resident aliens	annual	"
IRS	US Treasury Form 1042 return of income tax to be paid at source covering wages & taxes withheld from payments made to non-resident alien employees	annual	"
various Federal Contract & Grant Agencies	reports on Federal Contracts & Grants (approx. 1,900-2,000 contracts or grants active at any one time)	monthly/ quarterly (dep. on agency)	"
DHEW	Annual Staff Personnel & Academic Personnel	annually	Chancellor's Office

REPETITIVELY PRODUCED REPORTS TO FEDERAL AGENCIES

Federal Agency	Title of Report	Frequency	Prepared by UCSA/Campus Department
National Science Foundation	Survey-new graduates (re employment experiences)	annually	Chancellor's Office
NSF	Survey of Graduate Science Student Support & Postdoctorates	"	"
National Academy of Science	Survey of Earned Doctorates	"	"
DHEW	Upward Bound Program Report	"	OAR
DHEW	HEW Student Confirmation Report	bi-annually	OAR
Federal (& State) Agencies	report on withholding employee salaries (as in the case of court orders, etc.)	as required	Accounting
IRS	report of Tax Free Alcohol User Form #1451	annually	Purchasing
Dept. of Agriculture (Animal Division)	USDA Report-Number of animals used by units & treatment of	annually	Animal Resources
DHEW	HEGIS/Higher Education General Information Survey	bi-annually	Library
DHEW	LIBGIS-Supplement Library General Information Survey	"	"
DHEW	health professions & Nursing Student Loan & Scholarship programs, Annual Operating Report	annually	Financial Aid
US Department of Justice	Law Enforcement Education Program-Summary & Certification Sheet	quarterly	"
DHEW	Institutional Progress Report for Basic Educational Opportunity Grants	tri-annually	"
DHEW	Student Validation Roster for Basic Educational Opportunity Grants	annually	"
US Office of Education	Institutional Fiscal Operations Report	annually	"

REPETITIVELY PRODUCED REPORTS TO FEDERAL AGENCIES

Federal Agency	Title of Report	Frequency	Prepared by UCSA/Campus Department
DHEW	Annual Update of Affirmative Action Plan	annually	Personnel
NSF	NSF Grants quarterly expenditure report & cash reconciliation statement	quarterly	Accounting
Dept. of Defense Contracts	Form 1662	annually	Inventory
Dept. of Defense NASA Contract & Grants	Form 1018	annually	Inventory
NSF	Report on cash advance requests	weekly	Accounting
NIH	NIH monthly report of cumulative expenditures	monthly	Accounting
NSF	Report on terminal reports not yet filed for NSF awards	quarterly	Campus Research
Immigration and Naturalization Service	Report on numbers and types of visas of foreign students	annually	OAR
NIH	Manpower Reports	annually	Recipients of NIH grants

IV Publication Requirements

Berkeley finds increasing requirements to publish and display various notices or items of information an annoyance. Sometimes they disrupt printing schedules, force a change in format, and add costs. They are difficult to implement because publications are decentralized and affected departments scattered throughout the campus.

In March the President's office issued guidelines on publication requirements, which can serve here as a convenient summary.

PUBLICATION REQUIREMENTS

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974

(Buckley Amendment)

ontent of Publication Section 99.6 of the implementing egulations to the Federal Family Educational Rights and rivacy Act of 1974 (45 CFR 99) requires that students be nformed of: (1) their rights under the implementing egulations and under Section 438 of the Federal Act; (2) their ights under the policy adopted by the University pursuant o Section 99.5 of the implementing regulations, which are et forth in the University of California Policies Applying to he Disclosure of Student Records; (3) the locations where opies of that policy may be obtained; and (4) their right o file complaints concerning alleged failures by the University o comply with the requirements of the Federal Act.

he information provided to students concerning their rights ust include, at a minimum, the following statement:

> Pursuant to the Federal Family Educational Rights and Privacy Act of 1974 and the University of California Policies Applying to the Disclosure of Information from Student Records, students at the University have the right:
>
> 1. To inspect and review records pertaining to themselves in their capacity as students;
> 2. To have withheld from disclosure, absent their prior consent for release, personally identifiable information from their student records, with exceptions as noted in Section VI. of the Policies;
> 3. To inspect records maintained by the campus of disclosures of personally identifiable information from their student records;
> 4. To seek correction of their student records through a request to amend the records or a request for a hearing; and
> 5. To file complaints with the Department of Health, Education, and Welfare regarding alleged violations of the rights accorded them by the Federal Act.

The notice should also include the following information:

1. The locations where copies of the University Policies and implementing campus procedures may be obtained, and where the text of the Federal Act may be reviewed;

2. The types and locations of student records maintained by the campus, and the titles and addresses of the officials responsible for the records; and

3. The title and address of a campus official who can answer questions concerning the rights of students under the University's Policies and under the Federal law.

Public notice also should be given of the categories of personally identifiable information designated by the campus as public information, and students should be informed of their right to refuse to permit any or all of those categories to be designated public information with respect to themselves. The notice also should provide students with an understanding of what such a refusal will mean. For example, it could include a statement such as: "If a request is made to withhold from disclosure a student's name and degrees and honors received, the campus cannot make public any honors received by the student, such as election to Phi Beta Kappa, and cannot include the student's name and degree earned in the campus commencement program without the written consent of the student. Similarly, if a request is made to withhold from disclosure a student's name and dates of attendance, a student's status as a student cannot be verified for potential employers without the written consent of the student. Further, if a student's last instruction to the campus was to withhold from disclosure the degree granted to that student and the date on which the degree was conferred, that information cannot be confirmed for a third party in connection with the appointment of that graduate to a new position or in connection with an honor that individual received."

Frequency of Publication Students are to be informed annually of their rights under the University Policies, the Federal Act, and the implementing regulations, at such times as are reasonably likely to inform them of those rights.

With respect to the categories of information each campus designates as public information, the Policies provide that students are to be informed at the time of their admission that such records may be released unless they specifically request in writing by the date of their registration that all or part of the information is not disclosable as a matter of public information. The Policies specify the time of admission, since it appears to be the most convenient time; however, including such information in the registration packet also would be acceptable, so long as a reasonable period of time elapsed before the information was released. A period of 30 days would satisfy this requirement. Students also may be informed of their rights with respect to public information through a notice in the official student newspaper published over a series of days.

Medium of Publication Notification of the rights accorded students under the University Policies, and under the Federal Act and implementing regulations, is to be made by such means as are likely to inform students of their rights. In meeting this requirement, the notification may be published in any official campus publication, such as the catalog, the class schedule, or the official campus newspaper.

PRIVACY ACT OF 1974

ection 7(b) of the Act provides that:

> Any Federal, State, or local government agency which requests an individual to disclose his social security account number shall inform that individual whether that disclosure is mandatory or voluntary, by what statutory or other authority such number is solicited, and what uses will be made of it.

ontent of Publication The notification requirements of Section (b) of the Act may be met in one of three ways.

ption 1, for requesting the mandatory disclosure of social ecurity numbers to be used for record-keeping systems established rior to January 1, 1975, pursuant to Federal or State statute r regulation.

> Pursuant to the Federal Privacy Act of 1974, you are hereby notified that disclosure of your social security number is mandatory. Disclosure of the social security number is required pursuant to (Federal or State statute or regulation--provide citation.)) The social security number is used to verify your identity.

ption 2, for requesting the mandatory disclosure of social ecurity numbers to be used for record-keeping systems established rior to January 1, 1975, pursuant to the authority of The Regents.

> Pursuant to the Federal Privacy Act of 1974, you are hereby notified that disclosure of your social security number is mandatory. This record-keeping system was established prior to January 1, 1975 pursuant to the authority of The Regents of the University of California under Art. IX, Sec. 9 of the California Constitution. The social security number is used to verify your identity.

Option 3, for requesting the voluntary disclosure of social security numbers for record-keeping systems established subsequent to January 1, 1975, pursuant to the authority of The Regents.

> Pursuant to the Federal Privacy Act of 1974, you are hereby notified that disclosure of your social security number is voluntary. This record-keeping system was established pursuant to the authority of The Regents of the University of California under Art. IX, Sec. 9 of the California Constitution. The social security number is used to verify your identity.

Frequency of Publication Individuals must be notified of the above information each time disclosure of the social security number is requested by the University.

Medium of Publication The required statement must accompany the request.

With respect to the remaining sections of the Privacy Act, General Counsel has said that "the act will apply only insofar as an institution is contractually obligated to operate on behalf of a federal agency a 'system of records to accomplish an agency function.'" It appears there will be few, if any, instances when the University will be affected by these sections of the Act, but in those cases where such a system of records is maintained, all requirements of the Act will apply, including the publication requirements in Section 3(e)(4), which follow.

Content of Publication If it is determined that a University contract with a federal agency provides for the University's operation of a system of records to perform a function of the agency, a notice must be published in the Federal Register, pursuant to Section 3(e)(4) of the Act, of the existence and character of the system of records. The notice shall include:

(A) the name and location of the system;

(B) the categories of individuals on whom records are maintained in the system;

(C) the categories of records maintained in the system;

(D) each routine use of the records contained in the system, including the categories of users and the purpose of such use;

(E) the policies and practices of the agency regarding storage, retrievability, access controls, retention, and disposal of the records;

(F) the title and business address of the agency official who is responsible for the system of records;

(G) the agency procedures whereby an individual can be notified at his request if the system of records contains a record pertaining to him;

GUARANTEED STUDENT LOAN PROGRAM

Sections 177.63 and 177.64 of the Federal regulations governing the Guaranteed Student Loan Program, published in the Federal Register on February 20, 1975, require that students be notified of the campus procedures for obtaining refunds; of the percentage of University of California graduates who obtain employment in the fields in which they studied, and their starting salaries; and of the University's current academic or training programs, and its faculties and facilities. The publication requirements relating to these sections follow.

1. Section 177.63 Refunds

Content of Publication The 1976-77 catalog, and each succeeding year's catalog, should include the Refund Procedure published in the Student Fees and Deposits brochure. The table on the following page incorporates the refund procedure for health sciences students into the table for new undergraduates and graduate students, and continuing and readmitted students. It should be published in its entirety by those campuses with medical, pharmacy, physical therapy, and health sciences students. For the remaining campuses, the refund procedure for health sciences students may be omitted.

In addition to the Refund Procedure, a descriptive paragraph should be included which informs students of the campus procedures to be followed in obtaining refunds.

Frequency of Publication The entire campus Refund Procedure should be published annually.

Medium of Publication The Refund Procedure should be published in the general campus catalog and in the catalogs of graduate and professional schools on campus, if those catalogs serve as the primary source of refund information for students attending those schools.

REFUND PROCEDURE

New Undergraduate Students

Prior to Day 1

Registration Fee paid is refunded except for the $50 Acceptance of Admission Fee, and other fees paid are refunded in full.

Day 1 and after

The $50 Acceptance of Admission Fee is withheld from the Registration Fee, and the Schedule of Refunds is applied to the balance of fees assessed.

All Continuing and Readmitted Students and New Graduate Students

There is a service charge of $10.00 for cancellation of registration or withdrawal before the first day of instruction. After the first day of instruction the Schedule of Refunds is applied to the total of fees assessed.

Medical, Pharmacy, Physical Therapy, and Dentistry Students

New Undergraduate Students

Prior to first day of instruction, fees paid are refunded in full, except for the Deposit.

Day 1 and after

The Deposit is withheld from fees assessed and the Schedule of Refunds is applied to the balance of fees assessed.

Continuing Students

The Schedule of Refunds is applied to the total of fees assessed.

SCHEDULE OF REFUNDS

TUITION, EDUCATIONAL FEE, UNIVERSITY REGISTRATION FEE, AND OTHER STUDENT FEES

1-14 days	15-21 days	22-28 days	29-35 days	36 days and over
80%	60%	40%	20%	0%

2. Section 177.64 Percentage of Graduates Employed and Starting Salaries

On December 18, 1975, the Commissioner of Education issued a statement indicating what the U. S. Office of Education will accept as "reasonable effort" to provide prospective students with salary and employment data. The letter reads, in part:

> If an institution makes no claims that a course of study will lead to positions of employment for which the course is intended as preparation, the "reasonable effort" requirement will be satisfied if the institution makes available to prospective students all pertinent data on employment and salary of previously enrolled students which it has compiled, or can readily compile from its existing records and files.
>
> Under the regulation, even where an institution (which has a course intended to prepare students for a particular vocation, trade, or career field) cannot, after reasonable effort, obtain significantly meaningful data regarding its own students, it must provide the most recent comparable regional or national data. /The data may not be more than three years old./

For the present, the "reasonable effort" requirement can be met by using available campus data, if such data already have been collected or can readily be compiled. If pertinent data cannot be readily compiled, the following composite table of national and institutional data may be used in its stead.

SALARY AND EMPLOYMENT INFORMATION
UNIVERSITY OF CALIFORNIA

FIELD OF STUDY	DEGREE LEVEL OF GRADUATES			PROBABLE OR DEFINITE JOB COMMITMENT[2]
	BACHELOR'S	MASTER'S	DOCTORATE	
	AVERAGE MONTHLY SALARY[1]			
Engineering	$930-1,290	$1,030-1,410	$1,260-1,840	77.4%
Humanities	510- 935	665-1,200		59.2
Life Science	545-1,000			66.0
Management		1,100-1,545		80.7
Physical Science	760-1,260		1,280-1,720	70.5
Social Science	560- 975	730-1,180		56.6

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[1] Source: A national survey of a representative group of colleges conducted by the College Placement Council, representing the 80 percent range of offers throughout the country. It should be noted that a wide variation in starting salaries exists within each discipline based on job location, type of employer, personal qualifications of the individual, and employment conditions at the tim of job entry.

[2] Source: The Job Market for UCLA's 1974 Graudates. Percentages are based only upon those students who planned to work immediately after graduation.

SALARY AND EMPLOYMENT INFORMATION
UNIVERSITY OF CALIFORNIA

FIELD OF STUDY	DEGREE LEVEL OF GRADUATES			PROBABLE O DEFINITE J COMMITMENT[2]
	BACHELORS'S	MASTER'S	DOCTORATE	
	AVERAGE MONTHLY SALARY[1]			
Engineering	$ 960-1374	$ 1065-1513	$ 1437-1954	85.3%
Humanities	532-1018	684-1242		73.9
Life Science	587-1033			77.9
Management		1067-1579		90.3
Physical Science	811-1289		1304-1974	77.1
Social Science	579-1061	694-1324		74.0

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[1] Source: A 1976 national survey of a representative group of colleges conducted by the College Placement Council, representing the 80 percent range of offers throughout the country. It should be noted that a wide variation in starting salaries exists within each discipline based on job location, type of employer, personal qualifications of the individu and employment conditions at the time of job entry.

[2] Source: The Job Market for UCLA's 1976 Graduates. Percentages are based only upon those students who planned to work immediately after graduation.

Beginning with the 1977-78 catalog, another option will be available to us, conducting a common periodic survey. If you think a Systemwide effort may be useful, my staff would be available to work with the campuses to develop an appropriate questionnaire and sample.

Frequency of Publication Employment and salary information should be published annually. The information may not be more than three years old.

Medium of Publication Employment and salary information should be published in the general campus catalog and in catalogs of graduate and professional schools on campus, if those catalogs serve as the primary source of refund information for students attending those schools.

3. Section 177.64 Current Academic or Training Programs and Faculties and Facilities

Content of Publication In the opinion of the Office of the General Counsel, the information in the campus catalogs speaking to current academic or training programs, and its faculties and facilities complies with the requirement of this Section to provide such information to prospective students prior to their payment of tuition or fees.

Frequency of Publication Information on programs, faculties, and facilities should be published annually.

Medium of Publication Information on programs, faculties, and facilities should be published in the general campus catalog and in catalogs of graduate and professional schools on campus, if those catalogs serve as the primary source of refund information for students attending those schools.

STANDARDS OF SATISFACTORY PROGRESS AND ATTENDANCE FOR STUDENT VETERANS

The January 9, 1976 guidelines from the State Department of Education's Bureau of School Approvals (State Approving Agency) require among other things that institutions enrolling student veterans submit for approval policy statements relating to Standards of Satisfactory Progress and Attendance which, after approval, must be distributed to enrolling veterans in the form of a veterans information bulletin (mimeographed or otherwise reproduced). Subsequent to the time the guidelines were issued, the Bureau agreed to accept from the University of California as a substitute for the veterans information bulletin publication of an official notice in the campus newspaper notifying veterans of the locations where they may refer to campus catalogs for standards of satisfactory progress and attendance.

Content of Publication

The notice should state that standards of satisfactory progress and attendance are given in the campus catalogs, and that catalo are available for use by student veterans in the Library, the Veterans Affairs Office, and the Student Affairs Office.

Frequency of Publication

The notice should be published quarterly.

Medium of Publication

The notice should be published in the official student newspaper

TITLE IX OF THE EDUCATION AMENDMENTS OF 1972

Content of Publication As I mentioned in my letter of December 29, 1975, students, applicants for admission, and sources of referral for applicants for admission, must be informed of the University's compliance with Title IX. The compliance statement should read as follows:

> As required by Title IX of the Education Amendments of 1972 (45 CFR 86), the University of California does not discriminate on the basis of sex in admission to or employment in the educational programs and activities which it operates. Inquiries concerning Title IX may be directed to (name and phone number), or to the Director of the Office of Civil Rights, Department of Health, Education and Welfare, Washington, D. C.

Title IX requires that preference should not be implied for one sex over the other in the text or illustration of publications directed to persons in the above classes, and that use of gender-related terms should be avoided wherever possible. The regulations also require that questions about marital status should not be included in applications for admission.

Frequency of Publication The compliance statement must appear, with certain exceptions, in all information given to applicants for admission, in all materials distributed to sources of referral for applicants for admission, and in all other materials used in connection with the recruitment of students. Exempted from this requirement would be publications that are received by the same audience more than once annually. The compliance statement need only appear once a year in such documents; however, in publications that are received by varying audiences, the statement should appear in each issue.

Medium of Publication The compliance statement should be included in the following types of publications:

1. For Applicants for Admission

   Campus Publications: catalogs; graduate school applications; graduate financial aid information (e.g., graduate fellowships and scholarships); professional school applications; general recruitment brochures (including EOP); housing information and maps; posters with general information about the campus; announcements of individual schools or departments; posters or brochures about a school or department; and in publications prepared for workshops on admission.

Systemwide Publications: applications packets, financial aid applications, Answers for Transfers booklet, and Information for Prospective Students from Other Countries.

2. For Sources of Referral

Campus Publications: department newsletters which include prospective students on their mailing lists (e.g., medical school newsletters), workshops on transfer to higher education, and for high school counselors or teachers, in-service training materials on admission.

Systemwide Publications: materials to high school counselors and teachers (e.g., Prerequisites and Recommended Subjects, Notes on the Analysis of High School Transcripts, UC Fact Sheet).

3. For Currently Enrolled Students

Campus Publications: catalog and application forms directed at students prior to admission.

V An Increase in Regulation and Reporting Requirements Established by Others

An important secondary effect of federal regulation and the requiring of reports, is a parallel increase in ones imposed by others. This is often neglected in analyses of the federal-higher education relationship. Anyone contemplating new federal regulations or reports should take this phenomenon into account in assessing the burdens that will result.

State legislators, in particular, find federal enactments a fertile field for new ventures in creative government. This comes about in several ways. There are state actions that imitate prior federal ones, such as relocation enactments, or student records legislation, or requirements on collective bidding on contracts. Particularly important is the fact that the imitation is imperfect - there are differences in what is required, which makes for confusion and annoyance. And the thirst to legislate is seldom slaked by mere imitation; one must go beyond, and so state enactments carry controls and intrusions even further. Buckley allows someone reading a recommendation to know whether the student waived his right to see it, state legislation does not. In prospective state legislation DNA become "biohazards," a much larger and more intrusive category, and federal regulation is supplemented by a state commission, which would no doubt find work in exacting it from others. Then, there is state action in lieu of federal legislation. Cal-OSHA is an example, in which federal government measures are displaced with its agreement, by equally or more stringent state ones. EEOC defers on complaints it has received to the state Fair Employment Practices Commission.

Next, there are the situations where the federal government works in conjunction with a state agency, with both doing their part on regulations. Public Works Act money are delivered to the states for redistribution to the campus in this way. The Law Enforcement Assistance Administration has grant programs of this sort, and the state regulations attached when the money gets to Berkeley are extensive.

Finally, there are state agencies the creation of which was induced by the federal government. The 1202 commissions are of this sort, including the California Postsecondary Education Commission CPEC requires numerous reports from the campus and has certain responsibilities vis-a-vis state higher education that some legislators would like expanded. There is a constant, mostly subdued, clash between CPEC's desire for a larger role in state higher education and the institutions' attempts to prevent that in the interest of their autonomy.

VI Constraints on Research

While this is difficult to confirm, there are persistent reports that regulations have prevented or discouraged some kinds of potentially valuable research. In human subjects the examples cited involve studies of alcoholics, addicts, and some investigations dependent on access to medical records. In DNA the burdens are said to have led some researchers to abandon even innocuous projects. Limitation on research may also occur indirectly, in that investigators and their associates complain about the increased time it takes to do experiments, the way regulations take time from research, and the necessity to use people on paperwork and record keeping at the expense of research work.

VII The Rise of Lawyers

Lawyers not only do what they're asked to, they have a way of changing how others do things. That is why some people regret the fact that they play an increasing part in the conduct of the institution.

One result of more use of lawyers is that this becomes another batch of people who must be consulted, adding another dimension to decisions. An increased proportion of Berkeley's business must be "cleared" in this way.

A second result stems from the way higher education institutions use lawyers. One gets the impression that business, for instance, often sees lawyers as facilitators people to come up with ways to let the company do what it wants by getting on top of, or around, the law - or as defenders who fend off challenges or drag them out so the company can keep on doing what it wants to as long as possible. In higher education institutions lawyers seldom serve as facilitators, and they are usually defenders in a much narrower sense. The institution may think it's bad public relations to land in court. Being allowed to do what it has been doing seldom makes money to pay lawyers to defend it. And it has few reserves to bear the costs of losing a suit. So university lawyers are expected to keep their employer out of trouble. Defense is replaced by preventing occasions where it will be necessary from arising.

This makes lawyers into a conservative force, resisting risk-taking or corner cutting or the overlooking of the most inconvenient details of a regulation. They shave the institution's flexibility by providing for the "worst possible case" in interpreting regulations. When the HEW officials appeared at the conference on 504 handicapped regulations, the most stringent interpretations of the regulations were offered not by those officials but by the representative of the office of the General Counsel. It was the University's lawyers that suggested DNA experiments fall under environmental protection laws so that an environmental impact report would have to be filed on each project. University and campus lawyers offered the most restrictive interpretations of the Bakke decision. They couple this with attention to formality and precision. Grievance procedures become much more "legalistic" affairs; everything is written down, and anything agreed to is stated in formal language. Policies to implement regulations become more elaborate documents. It is hard to blame anyone for this, in view of Berkeley's woeful experiences in civil rights complaint investigations by federal and state agencies.

Nevertheless, it invites friction with administrators, who find all too often that a workable solution entails informal agreements, that flexibility is a considerable asset, that some things are better left unstated and some details best ignored. This is particularly true when there are multiple constituencies involved and differing viewpoints that must somehow be fitted into a coherent policy. And administrators are paragons of order, formality, and attention to detail in comparison with the faculty. Thus as the regulations mount, the tone of an institution can gradually change, discomforting administrators and faculty. An often heard assertion around Berkeley is that eventually the whole elaborate superstructure of regulations will just collapse some day. But the institution may just be altered so as to better tend to the superstructure, and with plenty of people employed to tinker with it and show up this section or elaborate that one. It won't collapse; it just won't be the same institution.

VIII Preoccupation with Procedure

Never do regulations contain a clause stating that "when the procedures mandated herein clearly conflict with actions that would better achieve the intent of these regulations, the procedures may be circumvented." Thus the safest course is always to stick to the rules and document carefully one's attention to proper procedure. That the intent of the regulations may be frustrated matters little. Situations of this sort can arise in affirmative action, where tight job descriptions or admissions procedures steal the flexibility necessary to open opportunities for minorities or broaden views of who might be satisfactory to the benefit of women, minorities, and the handicapped. Such situations are plentiful in contracts and grants, where giving the government the best research for its money can be thwarted by procurement regulations and paperwork, fund transfer limitations, and property restrictions. The same can be true when it comes to securing talented foreign visitors, students, and employees.

Preoccupation with procedure also draws attention and energy away from programs and services that might better achieve the objectives of regulations. There are psychological costs here, when administrators see themselves futilely shuffling papers instead of making progress. At Berkeley, as elsewhere, the government pours resources into regulations, requires extensive reports, imposes detailed procedures on access for women and minorities, when it might better provide more financial support for such students or money to fund career development programs. The institution must put more of its resources into administrative detail as well, reducing what it can do to actually enhance equal opportunity.

A good summary of this point is provided by the following statements:

Federal laws breed regulations.
Federal laws and regulations breed state laws and regulations.
Federal and State laws and regulations breed University regulations.
Federal and State laws and regulations and University regulations breed campus regulations.
All regulations breed reports.
Reports breed further reports.

The above provide excellent evidence one is doing something when one is not.

IX More Complex Internal Regulations and Policies

More regulations, and more preoccupation with procedure help make University and Berkeley policies and guidelines ever more elaborate. The newly introduced restrictions on procurements in the last 120 days of an award, the new policies on consulting, the new program on equipment screening can be cited as examples. Audit pressures and indirect cost difficulties have multiplied the instructions and reports imposed by Accounting or Campus Research on principal investigators and departments. Policies on student records are much more elaborate and so on.

Many of these are direct responses to specific provisions in laws or regulations. But others emerge from efforts to anticipate future regulations or court rulings. Or they are induced by the interests and needs of University and campus bureaucracies who seize opportunities supplied by new government regulations to add a few of their own.

Regardless of the source, everything seems to take longer to do, more staff to do, more energy to do. And everyone has a growing list of things they would like to attempt for the good of the office and the campus but will never get to.

X More "Administering"

One of the oddities in asking people around the campus about the impact of regulations on the degree of bureaucratization and centralization is that typically they say little of this has occurred. Yet the evidence of it is all around. Various kinds of research cannot now be done without securing approval from a central authority. Anything to do with animals is far more centrally managed and supervised than a decade ago. The campus administration sets out more elaborate policies, administrative staffs have grown at all levels, as has paperwork. When Clark Kerr took over as President he cut the staff of the University administration, around 1,000, by over 50%. Since he left it has grown right back again. University Hall has more lawyers, a big affirmative action office, and more staff to handle and generate the increased paperwork. Some problems now receive central management because it is the only way to keep agencies from playing one campus against another.

The reason this is not perceived as increased centralization and bureaucracy apparently is that campus people think of those things in terms of heirachy - people above dictating what is to be done and how to do it to people below. This has not developed. The campus does take more administering than it used to, but not always of a heirachical sort. Instead, the rules, regulations and reports also provide opportunities for delay, for extending a problem almost infinitely. This promotes, in fact makes inevitable a highly consensual style in everything. All actions, policies, statements must be cleared with all sorts of people. Nothing can be done without detailed consultation. Everything must be handled by compromise and negotiation. A university normally has a good deal of this already. The regulations just work to reinforce it. On the staff side there is a fine expression, used in employee relations, that sums it up perfectly; Berkeley is run under the general rule that on any problem everyone involved must "meet and confer."

XI Hidden Adaptations to Regulations

The regulations require more administration than Berkeley can really afford, in view of its priorities. Since there are often no accompanying subsidies and the campus cannot readily adjust revenues to meet all the increased costs, something else must be done. The laws and regulations also threaten important institutional values - in research, in hiring, in dealing with students. Again, something must be done. That something comes in two forms: creative administration and institutionalized evasion.

Creative administration involves getting the work done when the necessary resources aren't there. Many administrators and investigators have become adept at cutting corners, hiding funds for emergencies, overworking key personnel, jamming two staffers into offices designed for one, getting clerks to handle work more appropriate for their superiors, hiding various illegalities, etc. Some have accepted doing without secretarial help to leave more money for research, or doing without a technician to leave more money for paperwork. Needless to say, this is a mixed blessing.

"Institutionalized evasion" is an old term coined by the sociologist Robert Merton. There are two sorts. Some are evasions borne out of a desire not to comply. Others are motivated less by opposition to the objectives of regulations than by a desire to comply without compromising the nature and character of the institution. The former are relatively rare, though a few instances were cited in this report, for Berkeley people either support the objectives behind laws and regulations or, as in the case of accountability, understand the necessity for them.

However, the latter is what much of the dismay concerning many regulations is all about. Faculty resisted the broad concept of "social risk" in human subjects regulations out of a concern for academic freedom. They seek to pursue affirmative action in hiring or promoting faculty and admitting students within the traditional framework of intellectual excellence that distinguishes Berkeley. They juggle the content of research proposals and reports to conform to applied research pressures without abandoning the quest for basic knowledge believed more appropriate. In administrative arrangements on contracts and grants, they sometimes evade detailed restrictions and regimentation to hold on to good assistants, hold research teams together and put the money available where it can foster more experimentation and the pursuit of new questions or new strategies for attacking a problem.

Administrators do the same. Details on money management in financial aid may get slighted in favor of getting the money to students. There can be maneuvering within regulations on foreign students to broaden students' opportunities. Students are told they can prevent publication of basic information about themselves, but are then talked out of doing so to preserve elements that make for an open institution and to save resources for other services. Regulations on human subjects are enforced by negotiation to harmonize them with concern about academic freedom, to strike a workable balance between the rights of those studied and the needs of the investigator where research is central to the mission of the institution. Enforcement of health and safety regulations is adapted to the peculiar circumstances of labs lest research be foreclosed and the labs shut down.

Such evasions are common in all large organizations, but they are particularly necessary in universities because the laws and regulations are so often designed with other kinds of institutions in mind. Many regulations involving affirmative action assume structures for hiring, job descriptions, and advancement that are totally foreign to the academic side of Berkeley. The Veterans Administration regulations have fly-by-night trade schools as their prime target. Or the regulations are drafted with little understanding of, or sympathy for, the way an institution like Berkeley works. The result is evasion not out of resistance to change but from the belief that the character of Berkeley is central to its achievements.

XII Internal Frictions

Faculty and administrators are naturally at odds on some matters but regulations can add to this somewhat. The administrators design new policies to implement regulations and thus become the first target of any anger and frustration aroused. They are accused of doing too little to forestall regulations or to resist them, and of going overboard, of taking the regulations too seriously.

Administrators find the faculty a bit too frivolous on regulations when the institution's welfare may be at stake. They see outright opposition to regulations as often impolitic; the better course is to demonstrate one takes the regulations seriously, and to make efforts to keep on the good side of those who enforce them. They notice that when the faculty's contracts and grants are at stake, faculty pressure runs to doing whatever is necessary to save their research.

Another kind of friction arises because the split between program officers and the money managers in the government is duplicated on campus and in the University, so that the business officers of the campus don't always agree with academic types on what constitutes unwarranted interference or excessive demands for accountability.

Another source of friction is that people have gradually emerged at Berkeley and in the University who have a certain self-interest in the regulations, for implementation is the reason for their jobs. People who take such jobs believe in the regulations, as they should. Perhaps the best illustration was the conference on the 504 regulations on the handicapped. Many of those participating are in the business of affirmative action. None of them chose to question the need for the regulations, and they showed no inclination to resist. Even the potential costs were not raised in a serious and systematic way. The visiting HEW officials might well have concluded that the campuses find the handicapped regulations fundamentally wise and acceptable!

XIII Services Foregone

Regulations have hidden opportunity costs, in that they force allocations of resources that leave some other matters of interest unattended. This is the most difficult effect to measure, yet it can be one of the most important. Faculty say they do less research than they would like because of administrative burdens associated with the projects they have. Lab business officers report being of less help to faculty than they might be or once were because they lack the time. The foreign student advisors can't give students all the attention they would wish. Affirmative action people regret having to put so much time and resources on procedures and having less for development programs.

Another consideration here is that distinguished faculty often have a choice. They can invest effort in programs to bring distinguished visitors here, in important research, in administrative activities that benefit the campus. Or they can decide that regulations connected with these things are too burdensome and take the fun out of the work involved, and they can turn to consulting and more visiting professorships which they find satisfying but which are of marginal benefit to the campus.

XIV Changes in Priorities

The previous point leads into this one, for an opportunity cost comes from applying one set of priorities rather than another. Regulations change priorities for they are external instructions on where resources and effort must go, believed necessary because the institution's own priorities are somehow deficient. They alter the way people on campus must allocate their time. They rearrange the plans for construction and renovation, to take account of the handicapped or the government's preferences in public works.

XV Reductions in Privacy, Autonomy

Generally speaking, state and federal laws and regulations want more privacy for students and human subjects but less for administrators, staff, and faculty. When an agency investigates a civil rights complaint, it does not want to be told something is confidential, including the files of employees not a party to the case. The government wants Berkeley to learn about and report on the ethnicity of its employees and students and not treat this as personal information. There is pressure to open faculty recommendations to students, to force faculty personnel decisions into the open, to extend access-to-files privileges to applicants. Faculty records have less and less confidentiality with bills pending in the state legislature that would strip away still more.

Autonomy is reduced by the degree of documentation required to transfer funds or justify equipment purchases on contracts and grants. It is particularly lost in affirmative action matters. It is eroded for the institution when federal funds are made contingent upon compliance. It is reduced for the researcher when new approval processes and supervisory mechanisms are added in research. It is one of the things lost when individual and institutional priorities are partially determined elsewhere.

XVI Basic Practices Undermined

At least two examples were presented of regulations working to undercut important traditional practices. One is the government pressing for nine separate indirect cost rates, one for each campus in the University, which is bound to increase the forces in favor of campuses retaining the indirect cost monies they generate. There is a constant struggle between seeing the University as one system or nine separate campuses; the government in this case has intervened in a way that supports the latter view.

The other example involved forcing the campus to retreat from allowing a lot of its business to be done on responsible persons' certification. The government prefers documentation. It prefers to have a check on these people and their actions. This compromises automony in a most significant way.

XVII Berkeley as Enforcer

The University and Berkeley are assigned numerous responsibilities for enforcing laws and regulations. This comes in two forms: self regulation, and enforcement vis-a-vis others. These responsibilities arise for a variety of reasons. The government regularly legislates actions that it cannot fully enforce because it lacks either the resources or the expertise. Affirmative action is an area where there simply aren't the resources. So is control over foreign students. Restrictions on research are examples of missing expertise. The government needs people familiar with a field, the local facilities, the merits of a proposal and its research design To buy the expertise and bring it to bear would be prohibitively expensive. Better to let the campus do it.

Enforcement responsibilities sometimes arise because federal officials find the constitution inconvenient. The reach of the government is much enhanced when although it cannot get at a local firm directly, it can order the University and the campus to include certain provisions in their subcontracts. The local firm soon finds it must be committed to affirmative action, open its books to the Comptroller General, pay the prevailing wage rates, and the like.

One problem is that the government is not very happy delegating responsibility for self-enforcement to the campus; after all, what if Berkeley ignores its responsibilities? So at the same time, an elaborate set of regulations is supplied. Berkeley isn't just told to safeguard the welfare of animals or human subjects, but given detailed instructions on how this must be done. The same thing happens on affirmative action, or DNA. The bastard form of autonomy that results gives institutions only part of the benefits of local enforcement, and the government only partial relief from the burden of enforcement, while everyone gets to have more paperwork and feel more harassed.

Self-enforcement means that regulations are administered in a much more "democratic" fashion - instead of a central authority laying down arbitrary edicts, enforcement is by committees and administrators at the institution. This permits enforcement that is subtle and sensible, adjusting regulations to realities. It also allows the regulations to be evaded, or watered down, or adapted to suit institutional sensibilities. It is impossible to have one without risking the other. But the government tries anyway, via extended regulations intended to eliminate possible evasions and set minimum performance standards. Where this sacrifices flexible local enforcement, the regulations then seem arbitrary, remote, and petty, which invites evasion.

Where the enforcement is by Berkeley vis-a-vis those outside, Berkeley is turned into an arm of the government. The implications of this are worth considering. If Berkeley can be an extension of government power, where is its cherished autonomy? If it can be forced or induced to pursue social welfare objectives or the health of small businesses just as the government desires, how can it claim to stand apart from society and offer a haven for judgments about it. In the days of the student riots, institutions resisted officially going on record on many public issues and being committed to direct social action. The government seems to be succeeding where the students failed.

Finally, enforcement responsibilities broaden the institution's political and legal liabilities. It does not take much sophistication to realize there will be numerous opportunities for the government to declare enforcement has been lax, that new regulatory mechanisms are needed. This is one way politicians compile records of legislative achievement. It can also happen when the audit agency changes or those tolerant officials one has reported to suddenly transfer or retire.

Concluding Comments

Reading through the 1963 ACE report Twenty-six Campuses and the Federal Government, many of the comments seem quite familiar. There was concern about research funding, for instance, and a running argument about indirect costs. But there is virtually no reference to federal regulation. No one saw the need for a report such as this one.

Now there is to be a national commission that will take up both the older problem of the relationship between the government and higher education in research, and the new one posed by federal regulations (and possibly state ones as well). To do this it must reflect on the possible ways in which the current relationship might develop, in order to select one that it wishes to foster or encourage. With several alternative futures in mind, it is easier to classify and analyze the many kinds of changes or reforms now being proposed. There are at least three broad ways in which the federal high education nexus could develop in an attempt to ease or resolve the problem of excessive regulation that has emerged.

One is to have a refinement, more or less, of the status quo by attempting to get better laws and regulations, in that they would be simpler and clearer, to create more manageable forms and reporting requirements, and to bring order into the current jumble of overlapping and sometimes contradictory requirements. This was the genesis of the Mathews Inter-Agency Task Force and of OMB Management Circular A-110. Many of the reforms regularly proposed by the higher education associations and a number of those suggested on this campus are in pursuit of this objective.

This is the easiest alternative to bring about because it would be the easiest to negotiate. The two sides can probably agree on the virtues of doing many of these things, the oxen to be gorged can be held to a minimum, and life can proceed pretty much as it has been, with the imperfections, frictions and compromises both parties live with and, what is more important, have learned to live with.

The only trouble with this alternative is that over the long run, it may not work. There is nothing unusual in that; lots of things done in and with the government are of exactly this sort - on tax reform, welfare reform, arms sales, gasoline consumption and the energy crises, urban decay, and so on. As those examples illustrate the problems often get no better and eventually get worse. The reason is that refining the status quo may bear little relation to the problem. Frequently it is an answer to a quite different question: how are we going to continue to live with the underlying problem? Since this is a short run question, it gets a short run answer; since we all live in the short run it may be a satisfactory one. But everyone should understand that the underlying problem isn't solved, won't go away, will possibly get worse.

The second alternative is to reestablish a substantial degree of distance between higher education and the government, an arms-length relationship anchored in an agreement by both sides to leave it that way. The government would have to agree that its intrusion can be harmful, accept clearly defined limits on what it can demand or impose, and operate its funding policies accordingly. It would have to maintain a program of support for research that is relatively insulated from shifting political influences. It might decide that to promote social change it is best to have laws and regulations that shake up traditional attitudes and procedures and set local groups to work, but then retreat so as not to encumber the changes that begin to take place.

Higher education institutions, for their part would have to agree that they must put their own houses in better order and must practice self-regulation with more vigor and concern, among institutions and within them. A more vigorous accrediting process would emerge. More management improvements would be introduced. Controls over possibly harmful research would be maintained. Institutions would also have to decide that one cannot get great lumps of federal money without compromising integrity, and that there is a limit to the federal support for which they should ask - with the serious possibility that this limit has been reached, or even surpassed.

While attractive in some respects, this alternative may not appear very realistic. Higher education is in financial difficulty and will continue to be. It wants to do things that will be enormously expensive. It will be very difficult to not constantly ask for more federal assistance. Also, thorough imposition of self-regulation might threaten the character of institutions about as much as external regulation appears to.

The government does not readily give up power and does not like to give away money. It will resist sharp constraints on its control over how its money is spent. Politicians and agency officials, for their part, can be expected to react to scandals, foolish research projects, new shifts in the public interest in science, to build records of achievement in legislating and regulating.

More plausible perhaps, is the third alternative. This is where the regulated move in to try to capture the regulators. Higher education would do less "informing" and more outright lobbying, playing politics in a much more intense fashion. There is a double payoff when an explicit drive to acquire political influence is successful. It can assure more sympathetic treatment when it comes to laws and regulations, and it can lead to greater access to the public purse.

The real cost here is that government and higher education would probably become far more deeply emmeshed than they are now. Autonomy would be traded for other values. Government would be saddled with many more detailed problems of higher education. (The defense contractors went this route a long time ago). Such developments would change forever the basic nature of one of the cornerstones of our society - its system of higher education and that system's relation to the state.

If the answer were clearer as to the proper and feasible way to go, a national commission of distinguished citizens would not be necessary. But the answer is not clear at all.

[1] Wesley Hall, Cash Flow, Research Management Improvement Project, Berkeley, December 1974, p. 15.